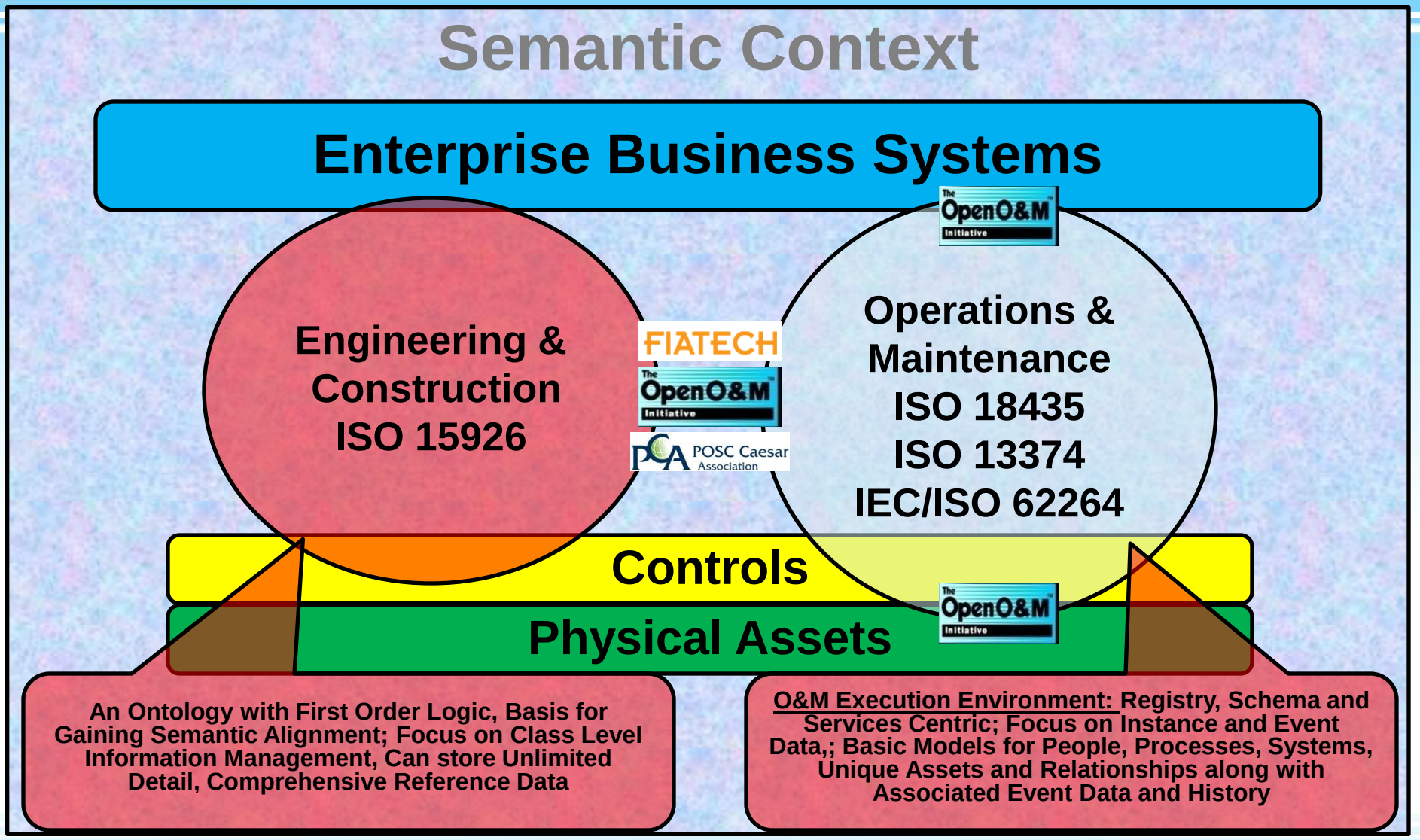
OpenO&M Standards-based Live Interoperability Demonstration

ISA Expo – October 6-8, 2009

Houston, TX

Context for Collaboration: Bringing Enterprise Business Systems Together with Engineering and O&M Systems – Oil and Gas Upstream Model



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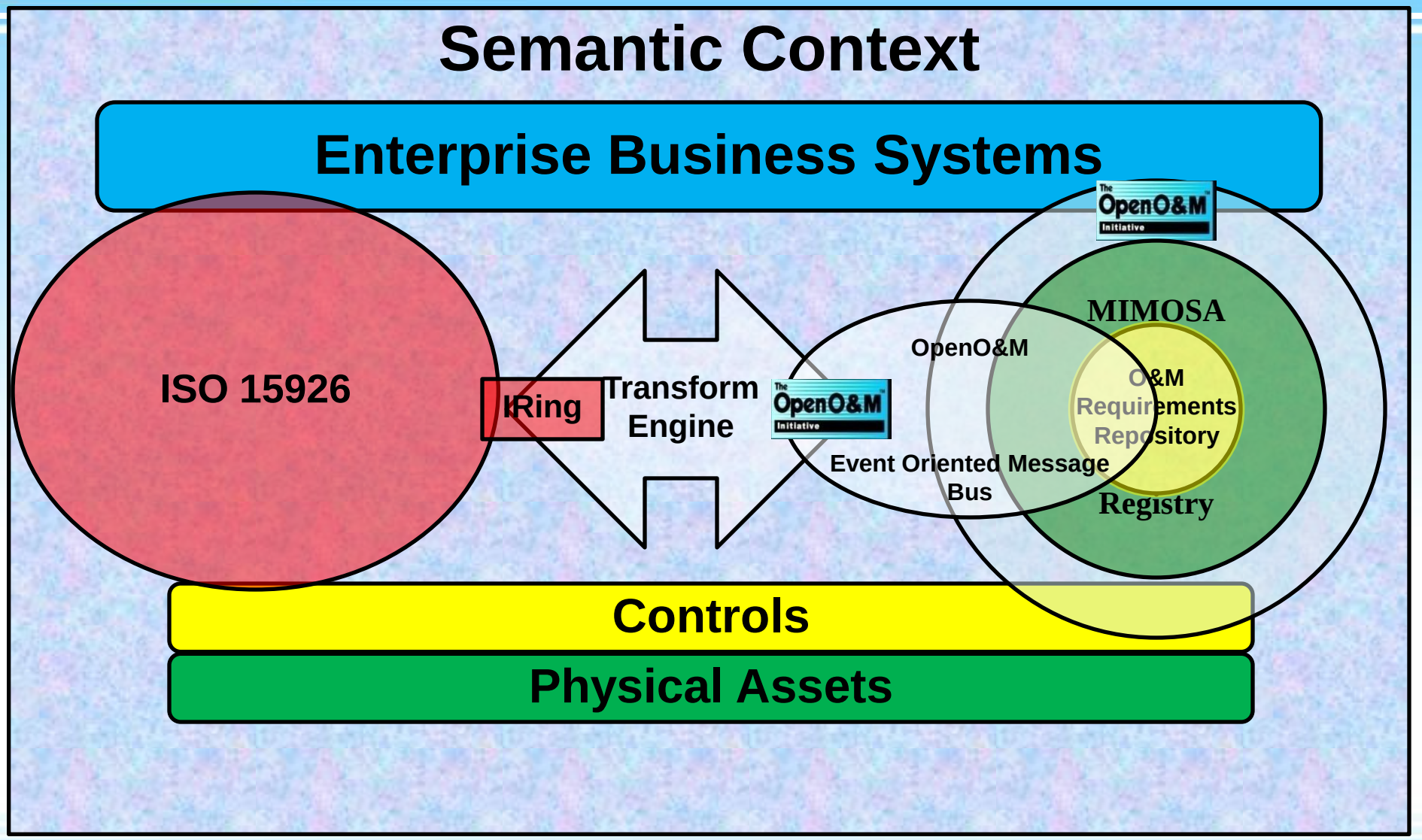


Silos Which Need to Communicate

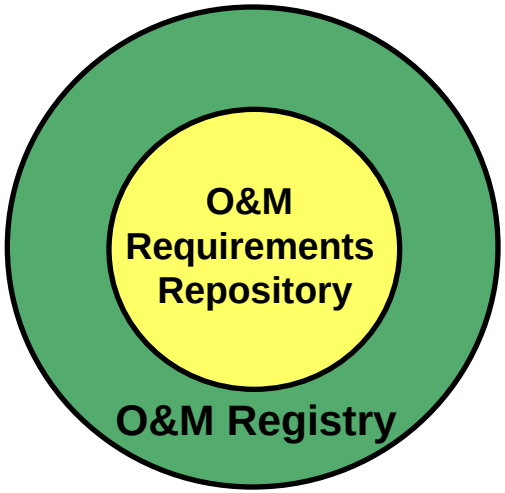
Oil & Gas Portals / Business Applications

Business Intelligence

Enterprise HR, Financial, Materiel, Logistics, & Mission Capability Data

Production Optimization, Planning & Scheduling

EPC P&ID Requirements & OEM Product Data



Maintenance Breakdown Structure, Maintenance Work Plans, & Actual Failure Data

Control Systems, Data Historians, Condition Monitoring, & SHE Systems Data

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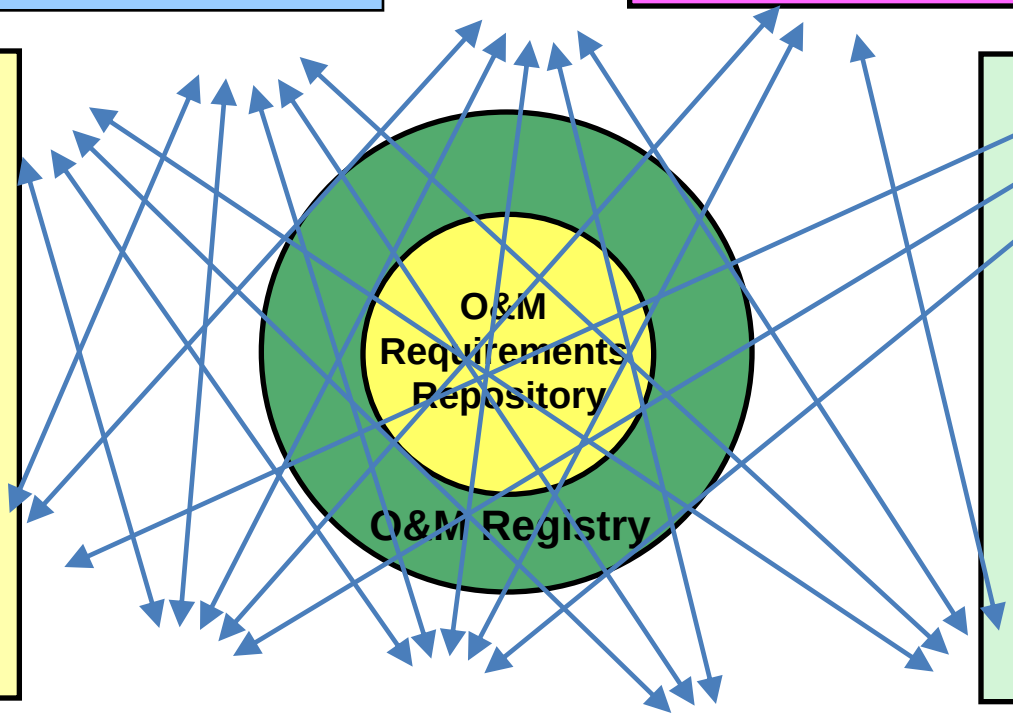

Maintenance Breakdown Structure, Maintenance Work Plans, & Actual Failure Data

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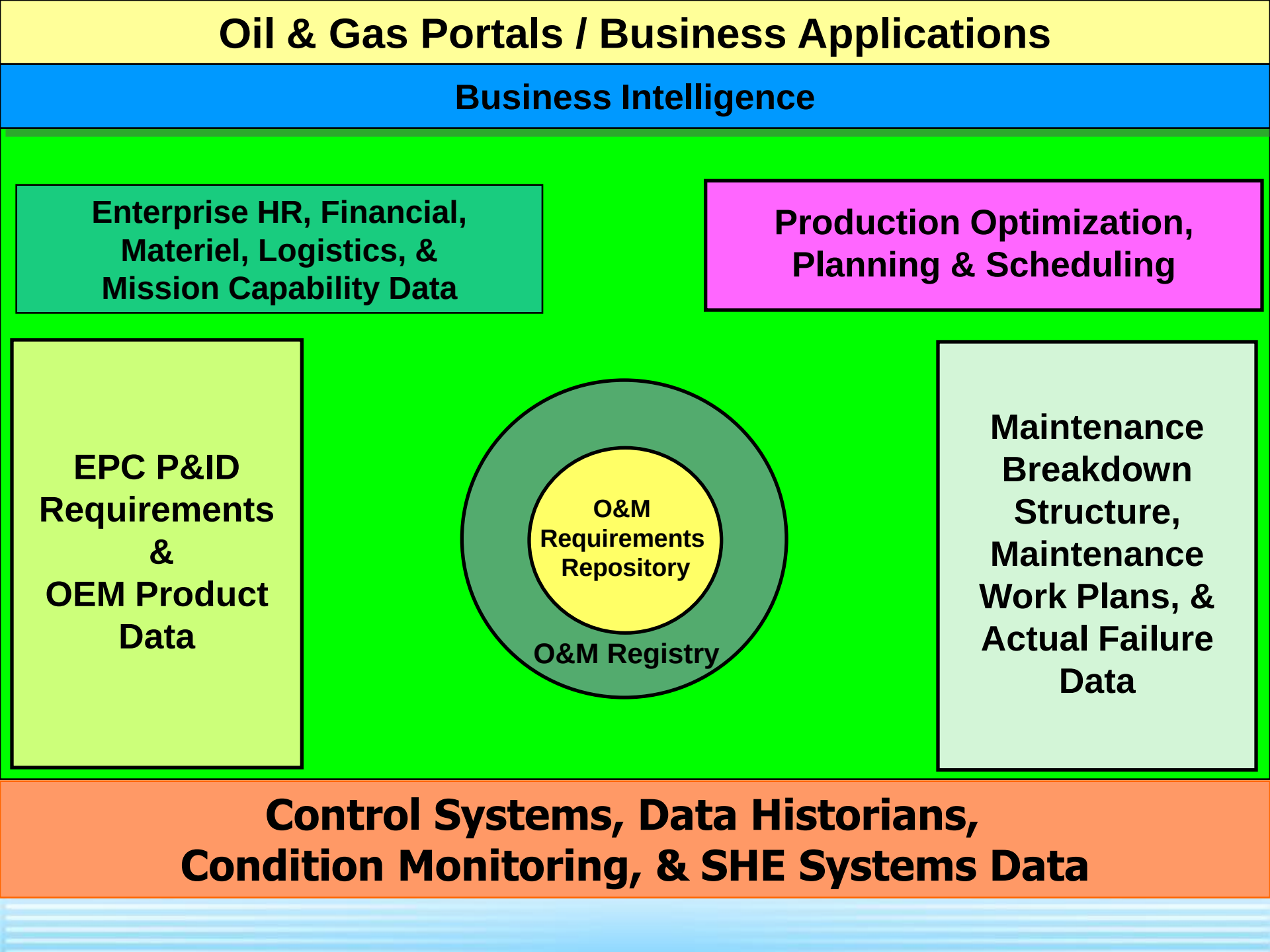
Oil & Gas Portals / Business Applications
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EPC P&ID Requirements & OEM Product Data
O&M Requirements Repository
O&M Registry
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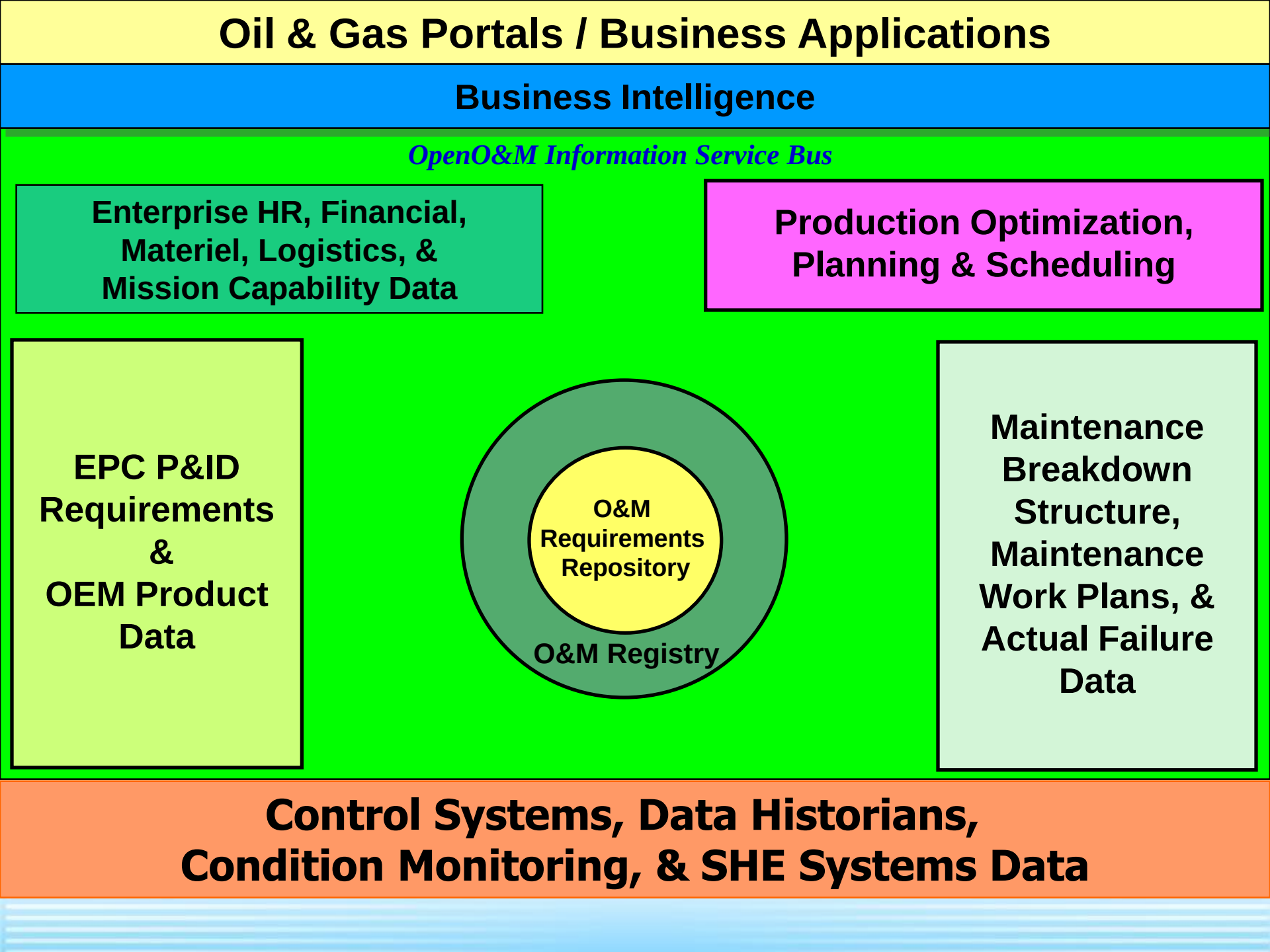
Enabler #1: Guaranteed-Delivery OpenO&M Information Service Bus


Oil & Gas Portals / Business Applications
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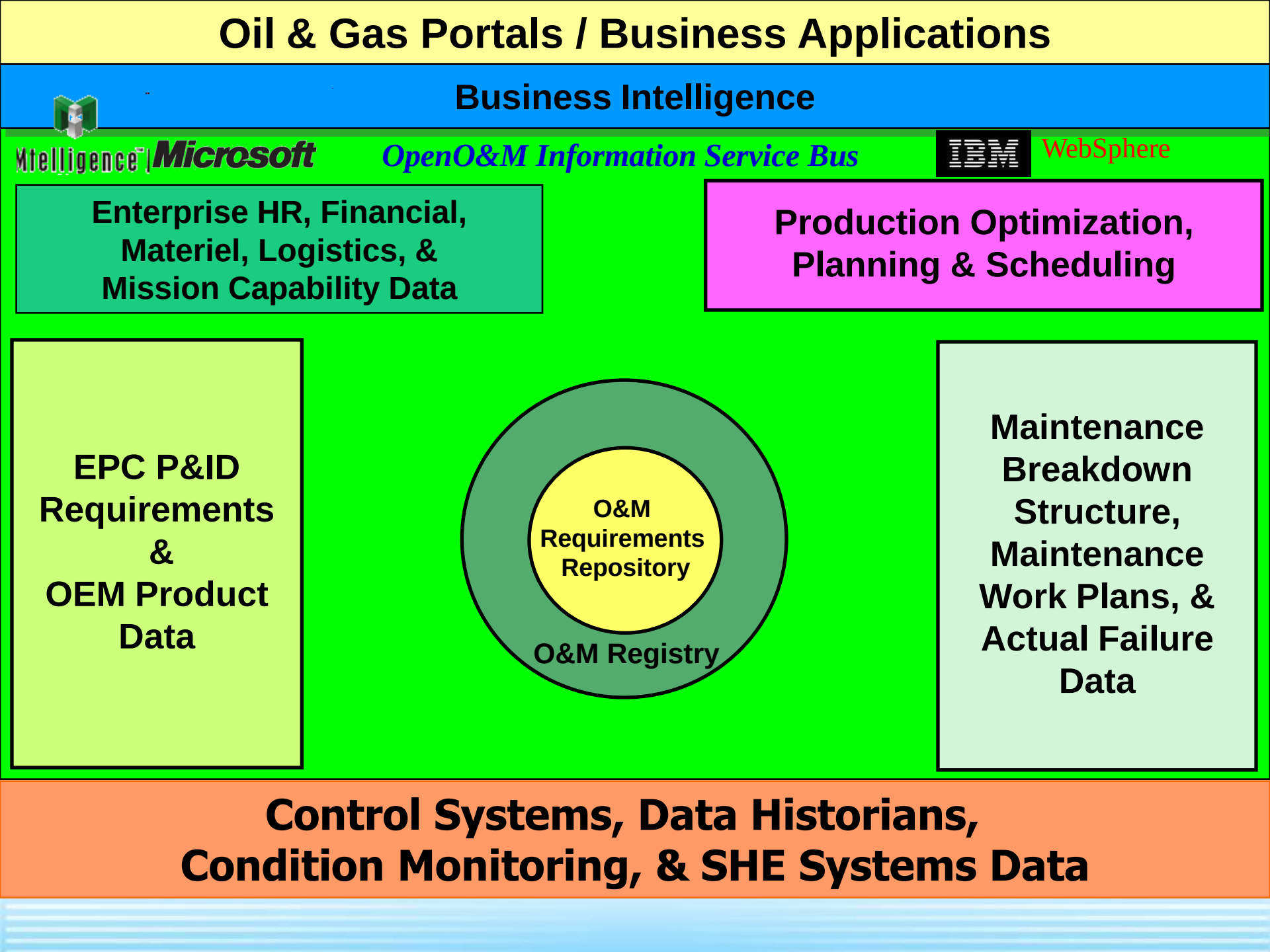
Oil & Gas Portals / Business Applications
Business Intelligence
Microsoft
OpenO&M Information Service Bus
IBM
WebSphere
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Production Optimization, Planning & Scheduling
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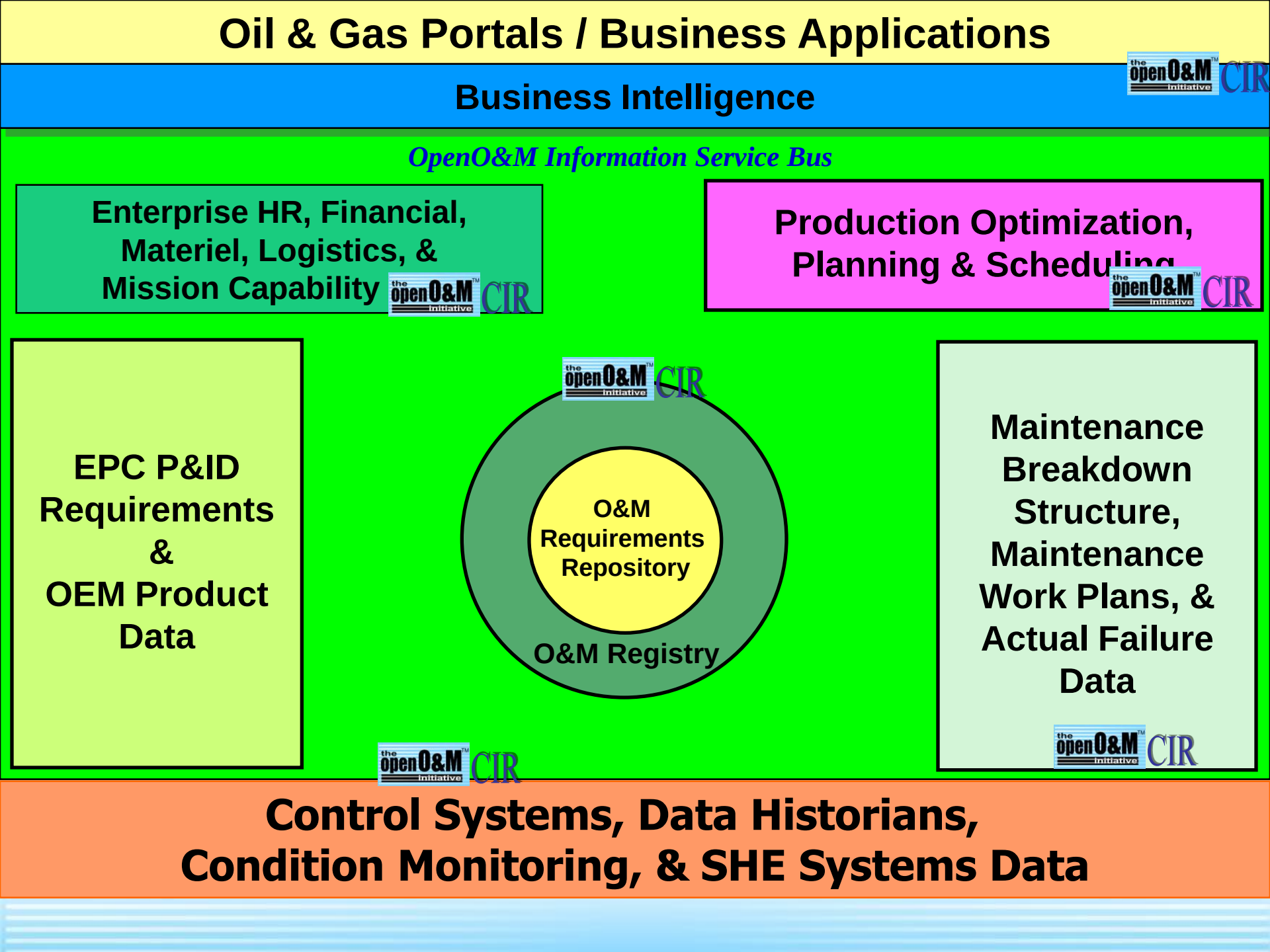
Enabler #2: OpenO&M Common Interoperability Registry (CIR)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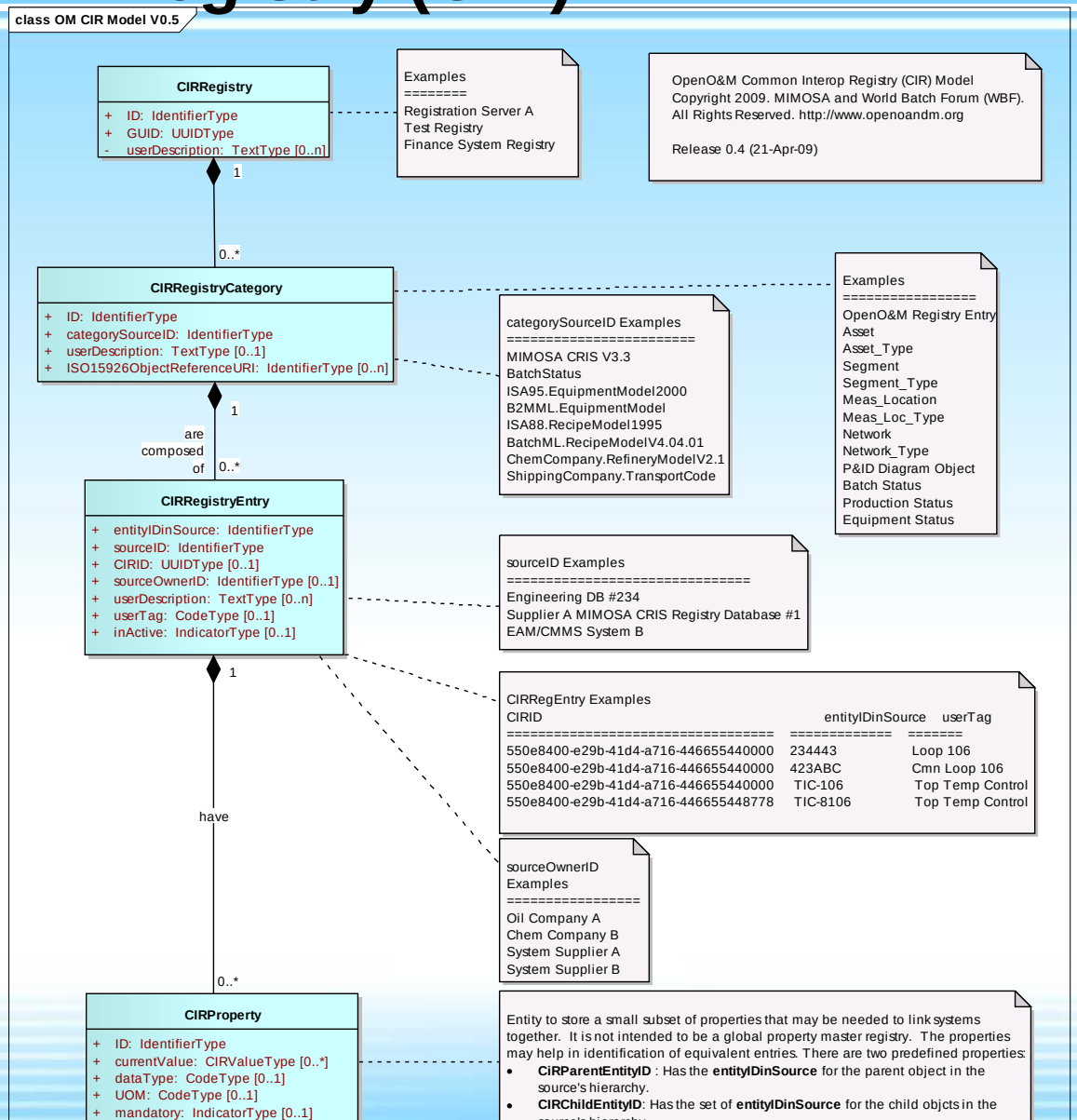
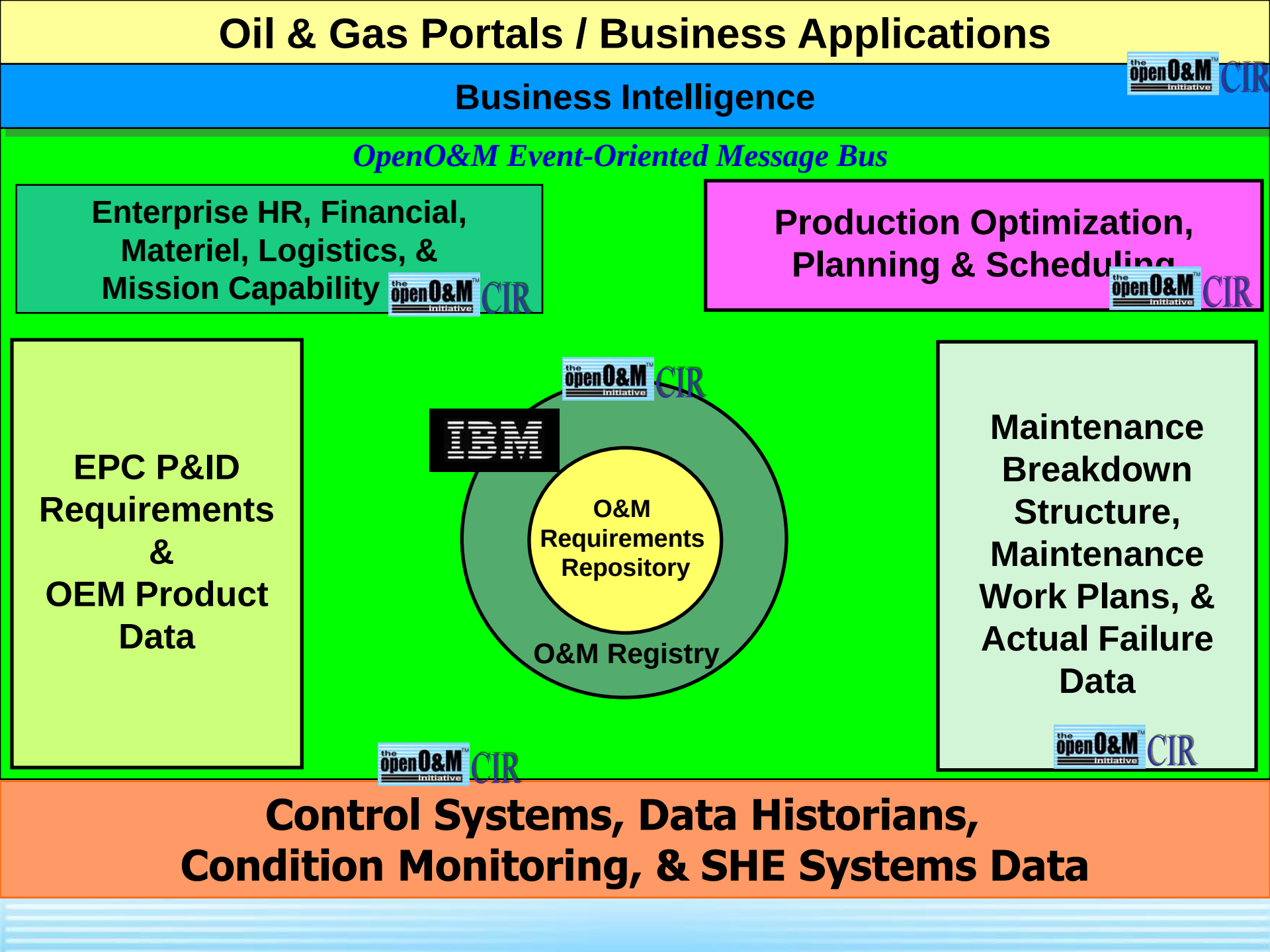
OpenO&M Common Interoperability Registry (CIR)

- Provides the “Yellow-Pages” lookup for all systems to locate an identical object in another system
- Glue to tie systems together which have different Identifiers for the exact same object but never had to talk “on-line” before
- Provides a globally-unique CIR Identifier (CIR Id) to link “local” object IDs

OpenO&M Common Interoperability Registry (CIR)




Oil & Gas Portals / Business Applications
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OpenO&M Event-Oriented Message Bus
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IBM
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Setting for our Demo
Today: Brand New Refinery
Finishing up Construction

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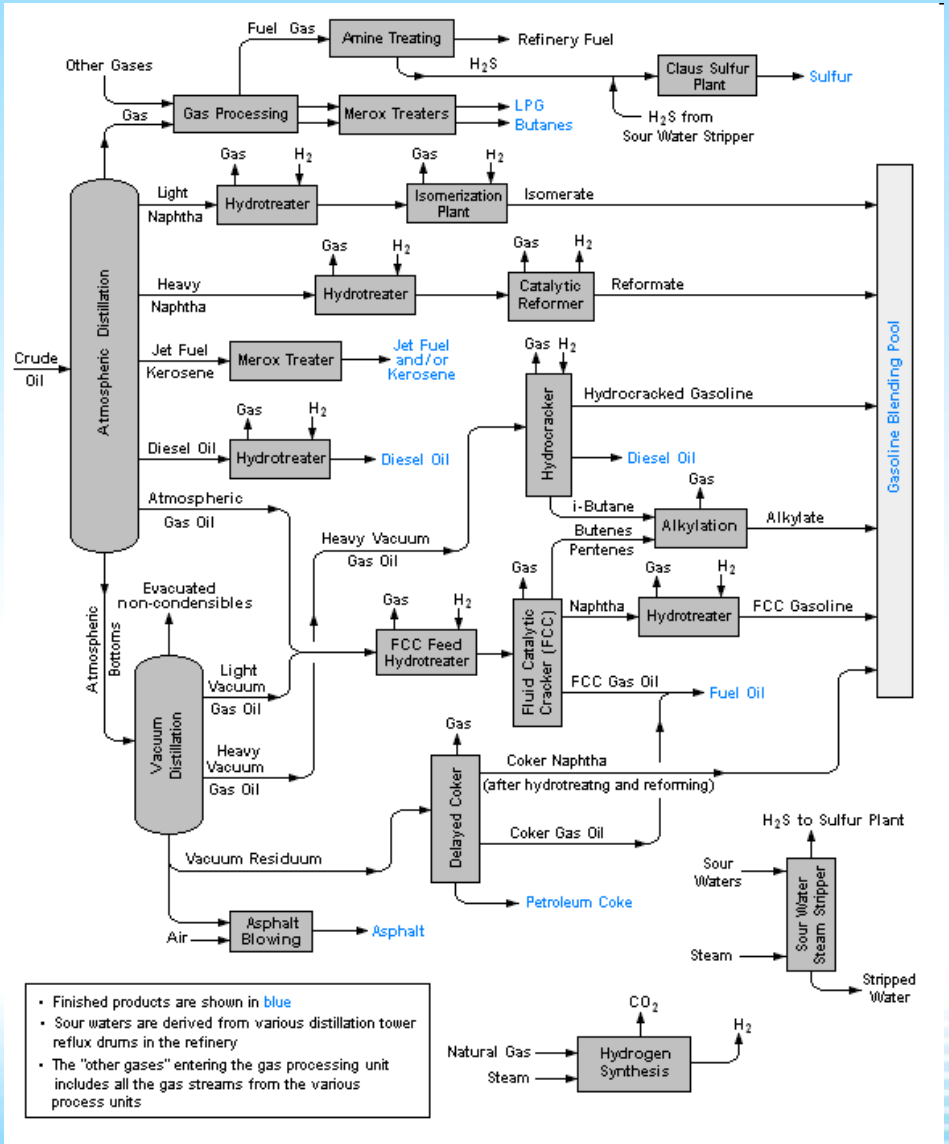
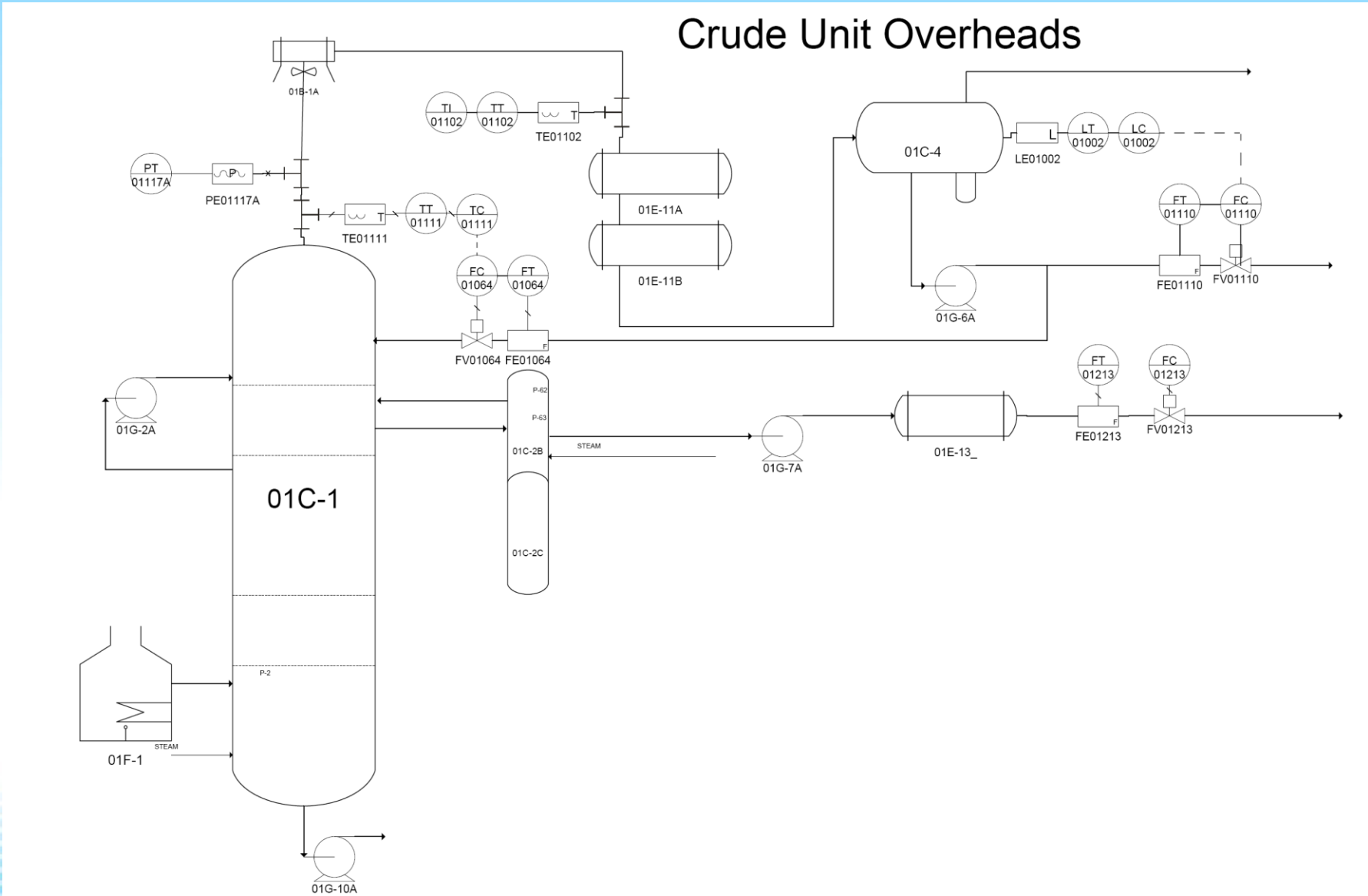
Forever Infrastructure

Refinery A



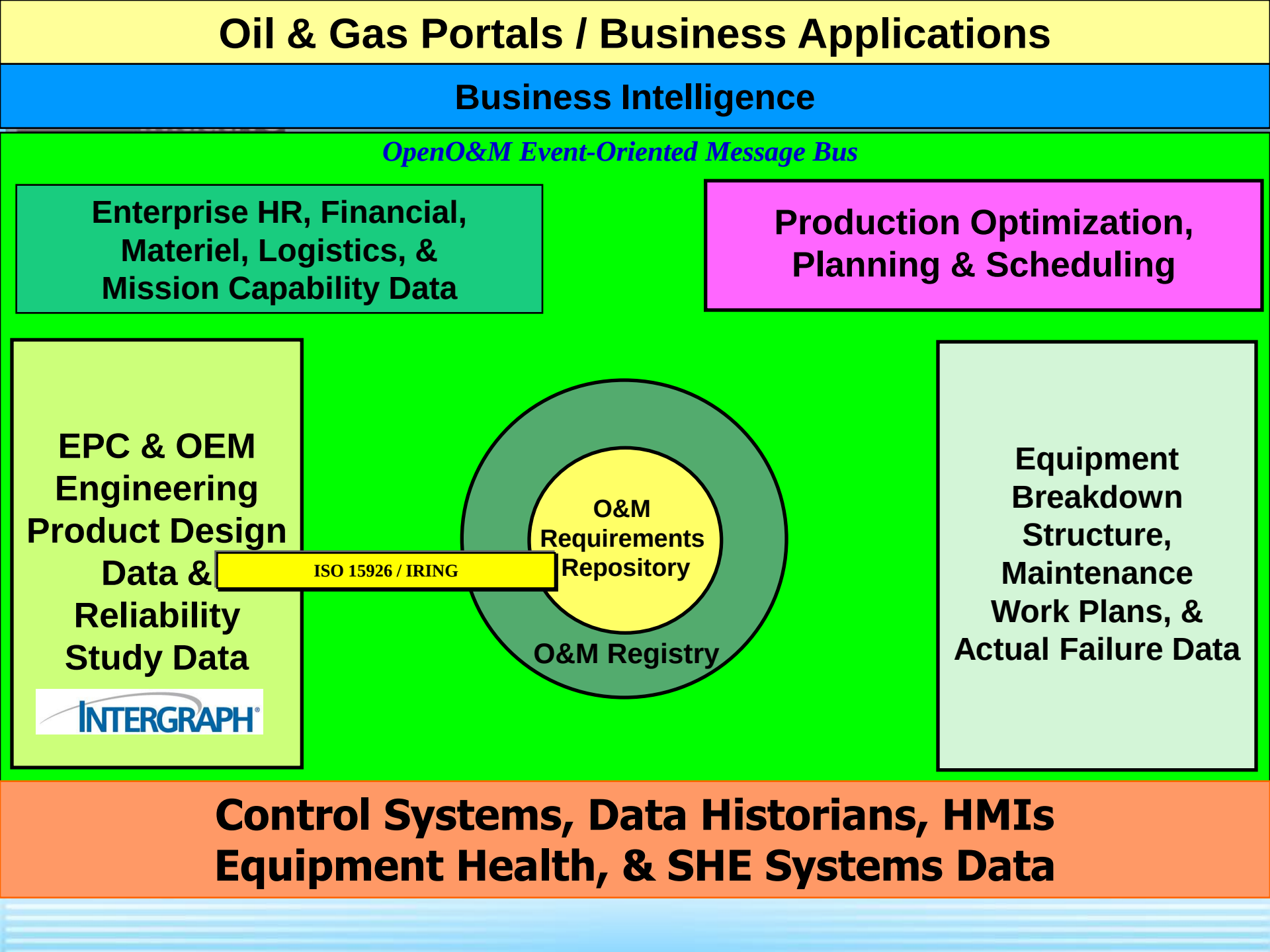
Forever Infrastructure Refinery A Crude Unit Piping and Instrumentation Diagram (P&ID)



Use Case E1: Green-field Engineering Data Handover to O&M

Current Business Problem: Lack of good mechanisms for managing the needed information exchanges between EPC turnover activities and the O&M related systems, applications and technologies

Capability Demonstrated in Booth: P&ID Objects and Instrument Lists With Associated Process Requirement Information Automatically Transferred to O&M Systems Without Manually Re-keying of Data Using ISO15926 & OpenO&M Standards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INTERGRAPH
ISO 15926 / IRING
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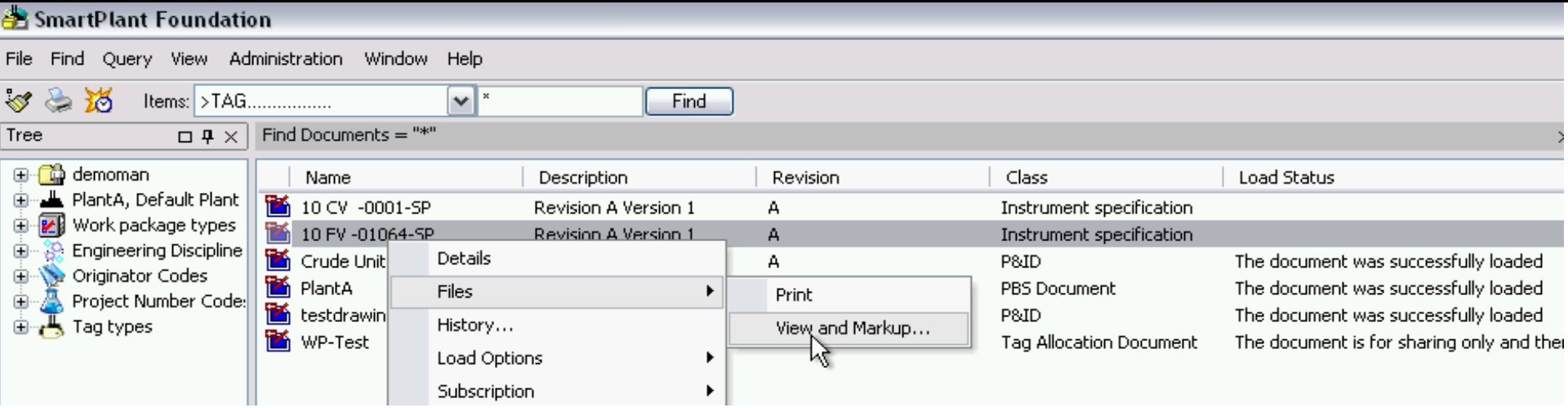
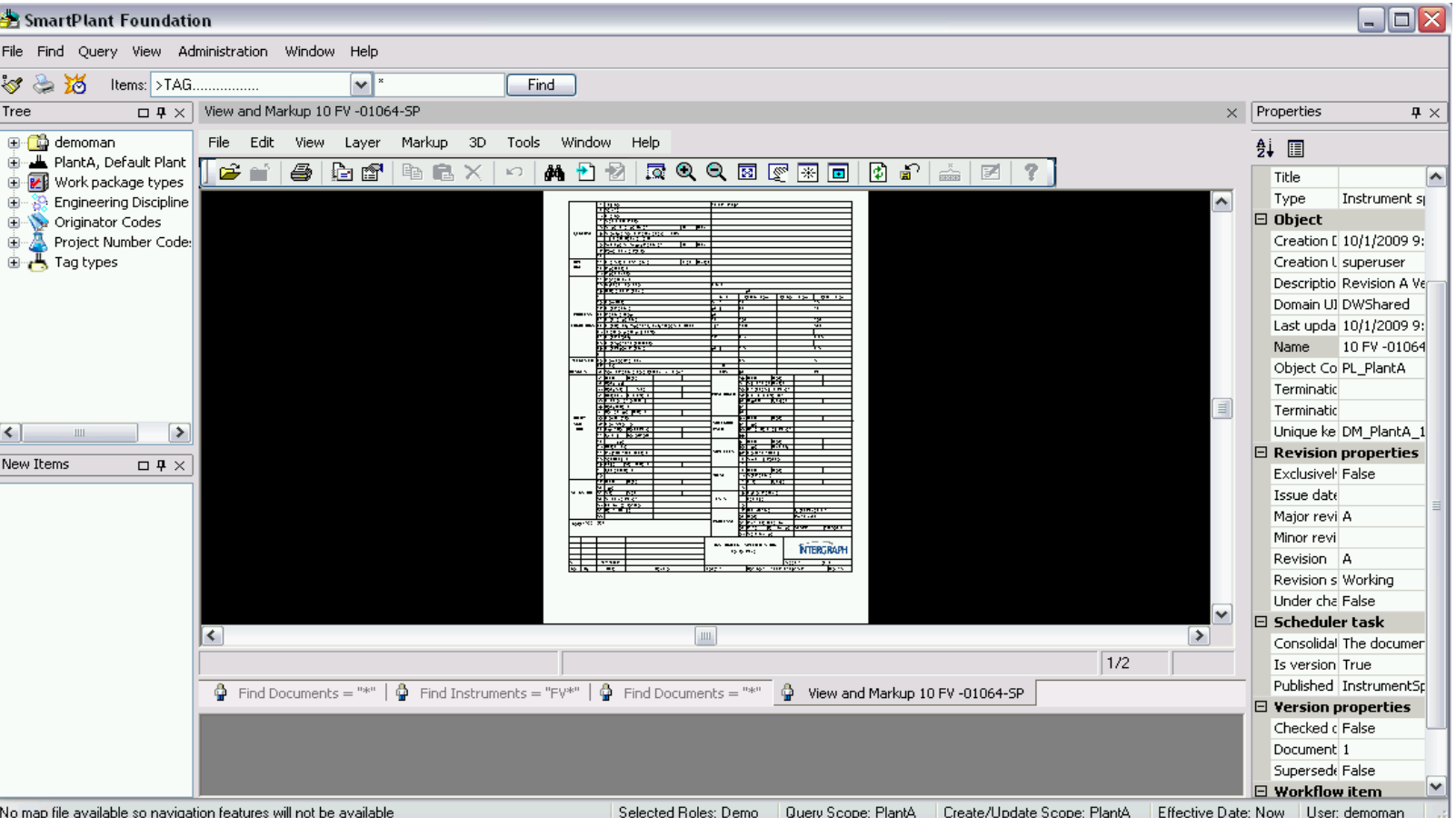
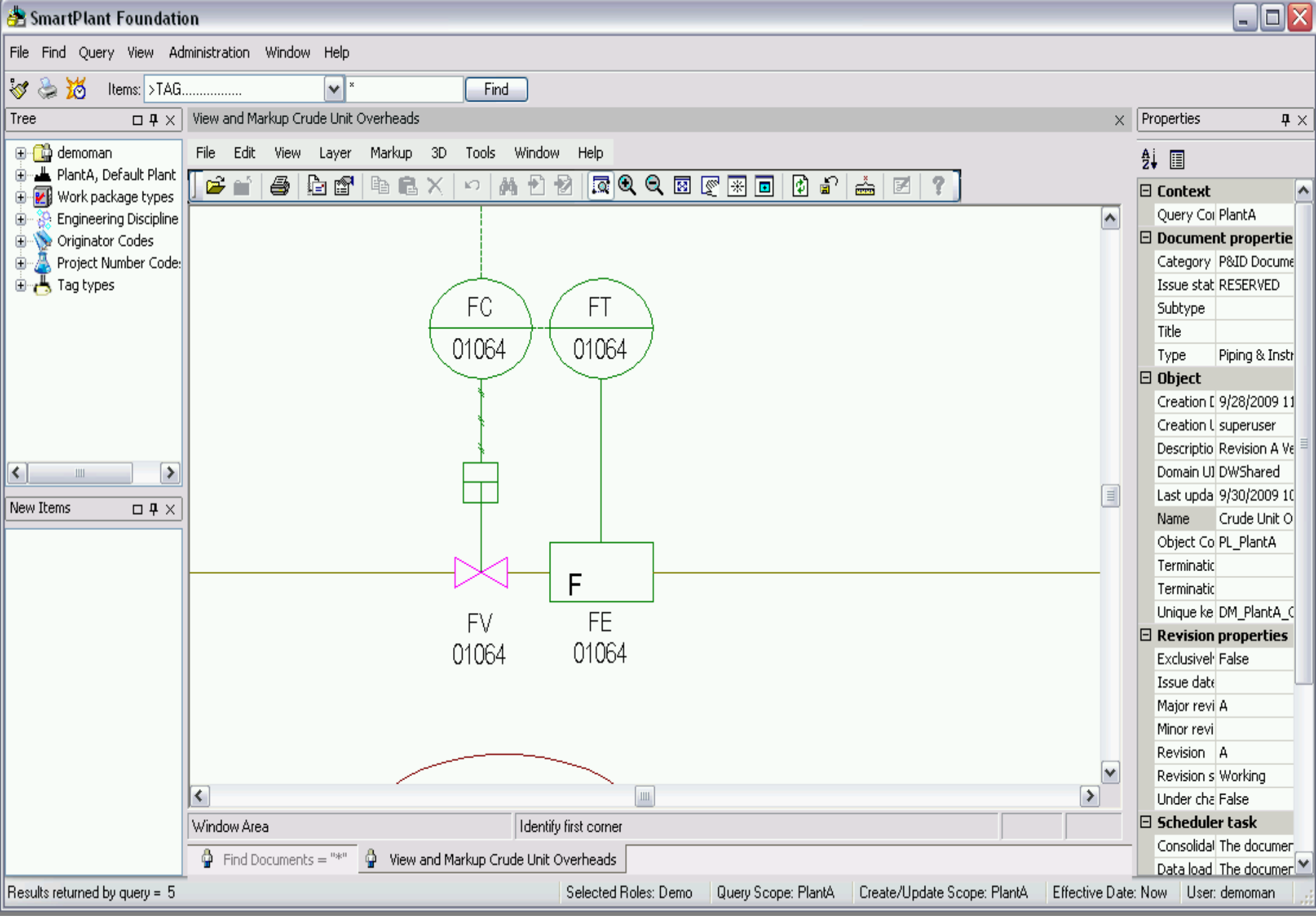
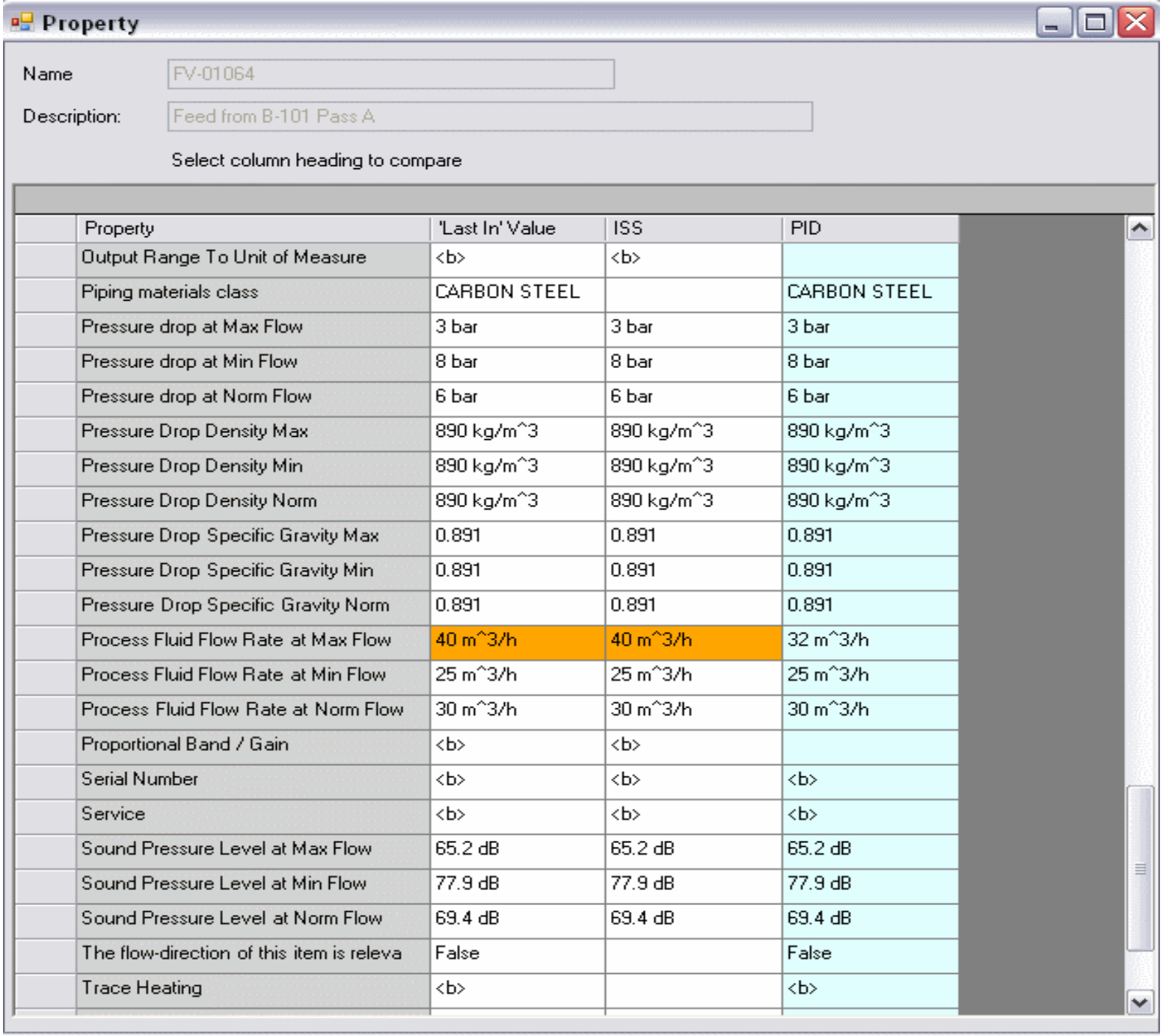

SmartPlant Foundation
File Find Query View Administration Window Help
Items: >TAG.....
Find
Tree
Find Documents = "*"
demoman
PlantA, Default Plant
Work package types
Engineering Discipline
Originator Codes
Project Number Code:
Tag types
Name
Description
Revision
Class
Load Status
10 CV -0001-SP
Revision A Version 1
A
Instrument specification
10 FV -01064-SP
Revision A Version 1
A
Instrument specification
Crude Unit
A
P&ID
The document was successfully loaded
PlantA
PBS Document
The document was successfully loaded
testdrawin
P&ID
The document was successfully loaded
WP-Test
Tag Allocation Document
The document is for sharing only and ther
Details
Files
History...
Load Options
Subscription
Print
View and Markup...


SmartPlant Foundation
File Find Query View Administration Window Help
Items: >TAG.....
Find
Tree
View and Markup 10 FV -01064-SP
File Edit View Layer Markup 3D Tools Window Help
Properties
demoman
PlantA, Default Plant
Work package types
Engineering Discipline
Originator Codes
Project Number Code:
Tag types
New Items
1/2
Find Documents = "*"
Find Instruments = "FV*"
Find Documents = "*"
View and Markup 10 FV -01064-SP
Object
Revision properties
Scheduler task
Version properties
Workflow item
No map file available so navigation features will not be available
Selected Roles: Demo
Query Scope: PlantA
Create/Update Scope: PlantA
Effective Date: Now
User: demoman

E105:1 (IT)


SmartPlant Foundation
File Find Query View Administration Window Help
Items: >TAG..... * Find
Tree
demoman
PlantA, Default Plant
Work package types
Engineering Discipline
Originator Codes
Project Number Code
Tag types
New Items
View and Markup Crude Unit Overheads
File Edit View Layer Markup 3D Tools Window Help
FC
01064
FT
01064
F
FV
01064
FE
01064
Window Area
Identify first corner
Find Documents = "*"
View and Markup Crude Unit Overheads
Properties
Context
Query Co PlantA
Document properties
Category P&ID Docume
Issue stat RESERVED
Subtype
Title
Type Piping & Instr
Object
Creation D 9/28/2009 11
Creation U superuser
Descriptio Revision A Ve
Domain UI DWShared
Last upda 9/30/2009 10
Name Crude Unit O
Object Co PL_PlantA
Terminatic
Terminatic
Unique ke DM_PlantA_C
Revision properties
Exclusivel False
Issue date
Major revi A
Minor revi
Revision A
Revision s Working
Under cha False
Scheduler task
Consolidal The documer
Data load The documer
Results returned by query = 5
Selected Roles: Demo
Query Scope: PlantA
Create/Update Scope: PlantA
Effective Date: Now
User: demoman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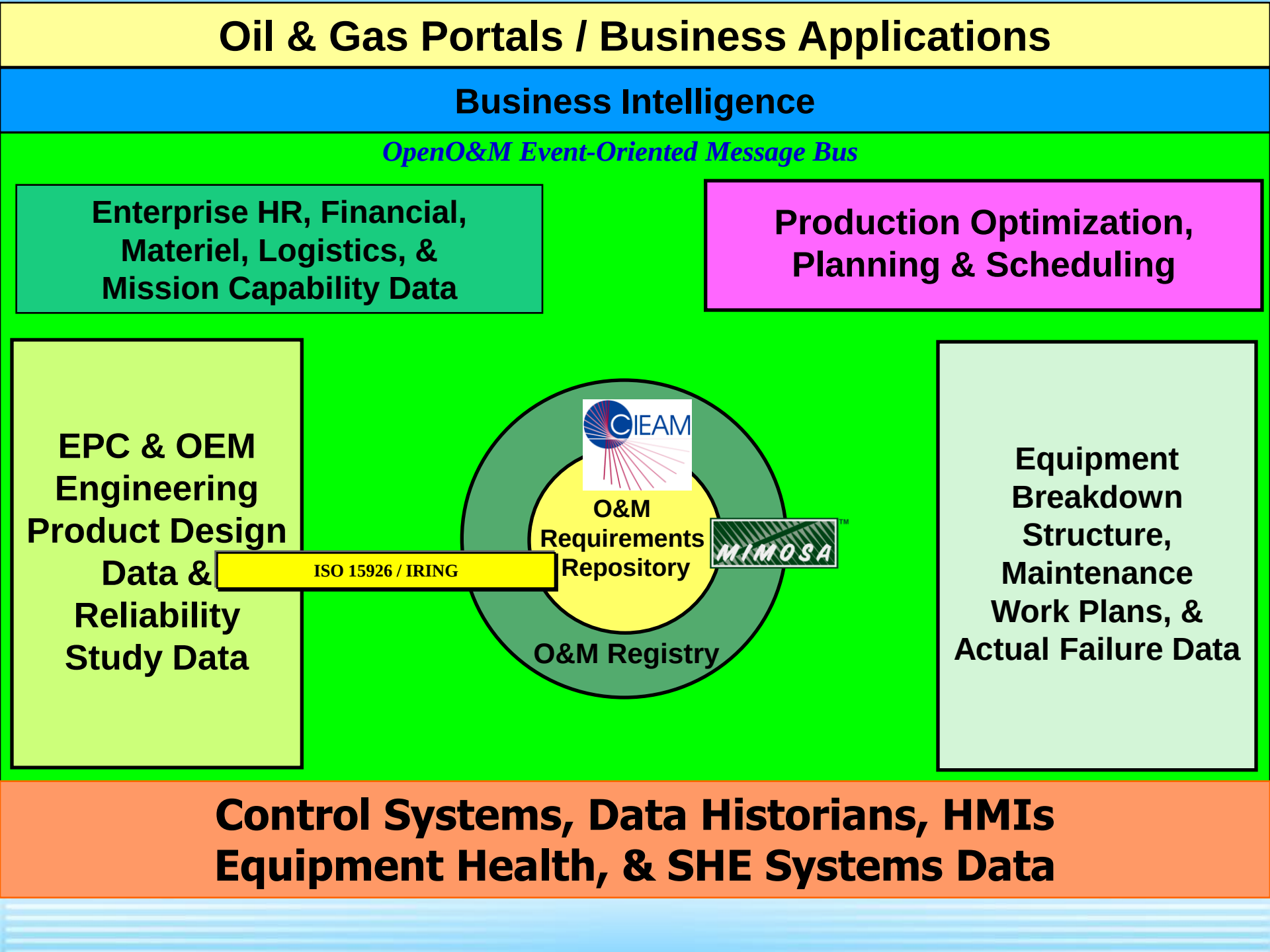
Name
FV-01064
Description:
Feed from B-101 Pass A
Select column heading to compare
Property
'Last In' Value
ISS
PID
Output Range To Unit of Measure
<b>
<b>
Piping materials class
CARBON STEEL
CARBON STEEL
Pressure drop at Max Flow
3 bar
3 bar
3 bar
Pressure drop at Min Flow
8 bar
8 bar
8 bar
Pressure drop at Norm Flow
6 bar
6 bar
6 bar
Pressure Drop Density Max
890 kg/m^3
890 kg/m^3
890 kg/m^3
Pressure Drop Density Min
890 kg/m^3
890 kg/m^3
890 kg/m^3
Pressure Drop Density Norm
890 kg/m^3
890 kg/m^3
890 kg/m^3
Pressure Drop Specific Gravity Max
0.891
0.891
0.891
Pressure Drop Specific Gravity Min
0.891
0.891
0.891
Pressure Drop Specific Gravity Norm
0.891
0.891
0.891
Process Fluid Flow Rate at Max Flow
40 m^3/h
40 m^3/h
32 m^3/h
Process Fluid Flow Rate at Min Flow
25 m^3/h
25 m^3/h
25 m^3/h
Process Fluid Flow Rate at Norm Flow
30 m^3/h
30 m^3/h
30 m^3/h
Proportional Band / Gain
<b>
<b>
Serial Number
<b>
<b>
<b>
Service
<b>
<b>
<b>
Sound Pressure Level at Max Flow
65.2 dB
65.2 dB
65.2 dB
Sound Pressure Level at Min Flow
77.9 dB
77.9 dB
77.9 dB
Sound Pressure Level at Norm Flow
69.4 dB
69.4 dB
69.4 dB
The flow-direction of this item is releva
False
False
Trace Heating
<b>
<b>
C:\Temp
Z:\MIMOSA
SmartPlant Foundation
Property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TextPad - C:\Dokumente und Einstellungen\mrgg\Eigene Dateien\Documents\presentations\091006_ISA-EXPO\RDF2MIMOSA\5 - Control Valve FV01064 P&ID Segme...

File Edit Search View Tools Macros Configure Window Help

5 - Control Valve FV01064 P&ID Seg...

```
<?xml version="1.0"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
         xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
         xmlns:r.0="http://rdl.rdlfacade.org/data#"
         xmlns:s.0="http://www.openoandm.info/demo/sample-process-diagram-info#">

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   Classify the control valve at process location FV01064 as a ISO 15926 "VALVE OPERATING DEVICE" and "PROCESS ITEM"
-->
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Tool Output

1 1 Read Ovr Block Sync Rec Caps

ISO-15

Pu

subClassO

Reciprocating PumpSet

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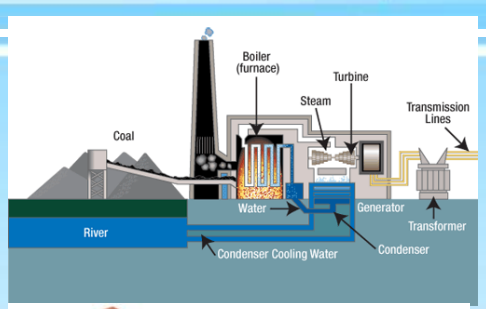
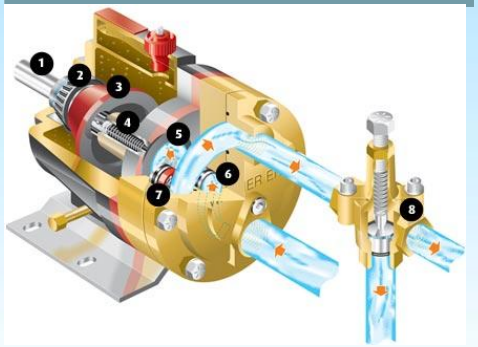
ENGINEERING

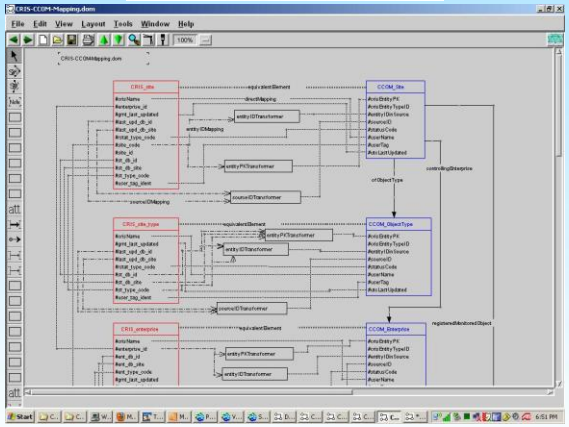




ISO-15926

TRANSFORMATION

DOME



CIEAM

UniSA

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MIMOSA

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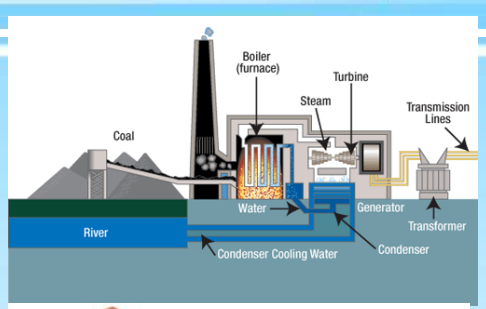

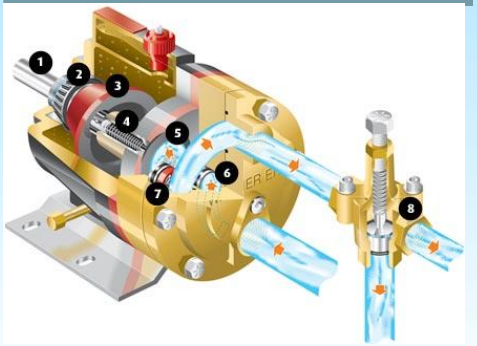

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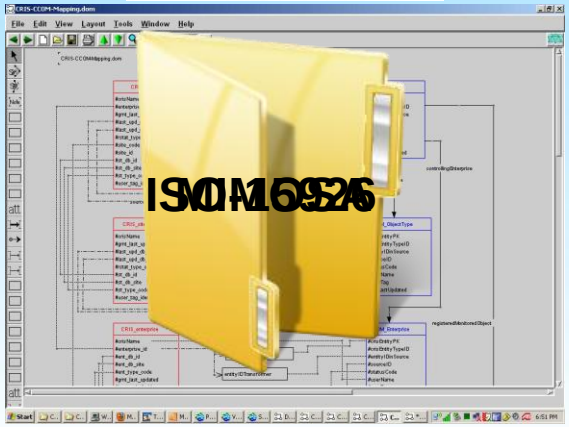
DOME



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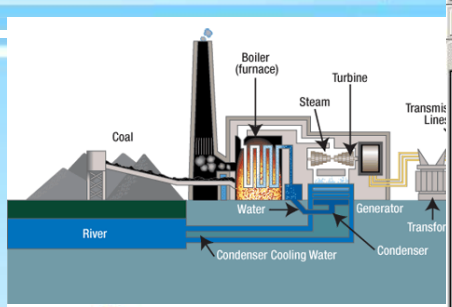

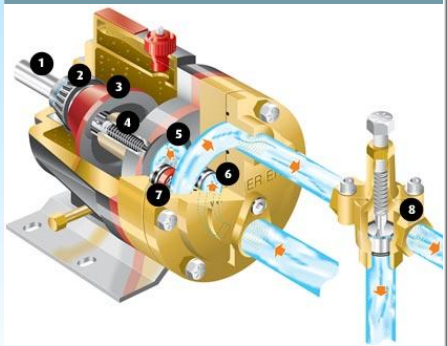

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File Edit Search View Tools Macros Configure Window Help

Complete MIMOSA Forever Water R...

```
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<!--Copyright 2004-2006, Machinery Information Management Open Systems Alliance, All Rights Reserved-->
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Tool Output

1 1 Read Ovr Block Sync Rec Caps

CIEAM

UniSA

Oil & Gas Portals / Business Applications

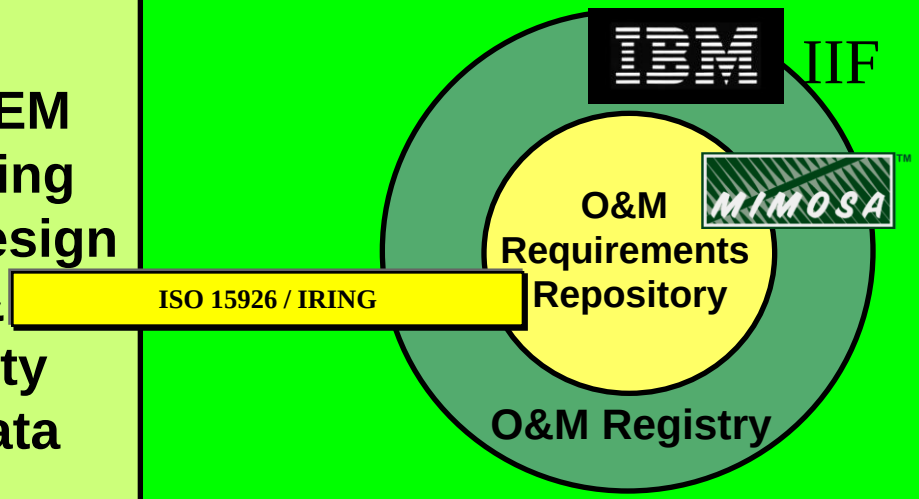
Business Intelligence

OpenO&M Event-Oriented Message Bus

Enterprise HR, Financial, Materiel, Logistics, & Mission Capability Data

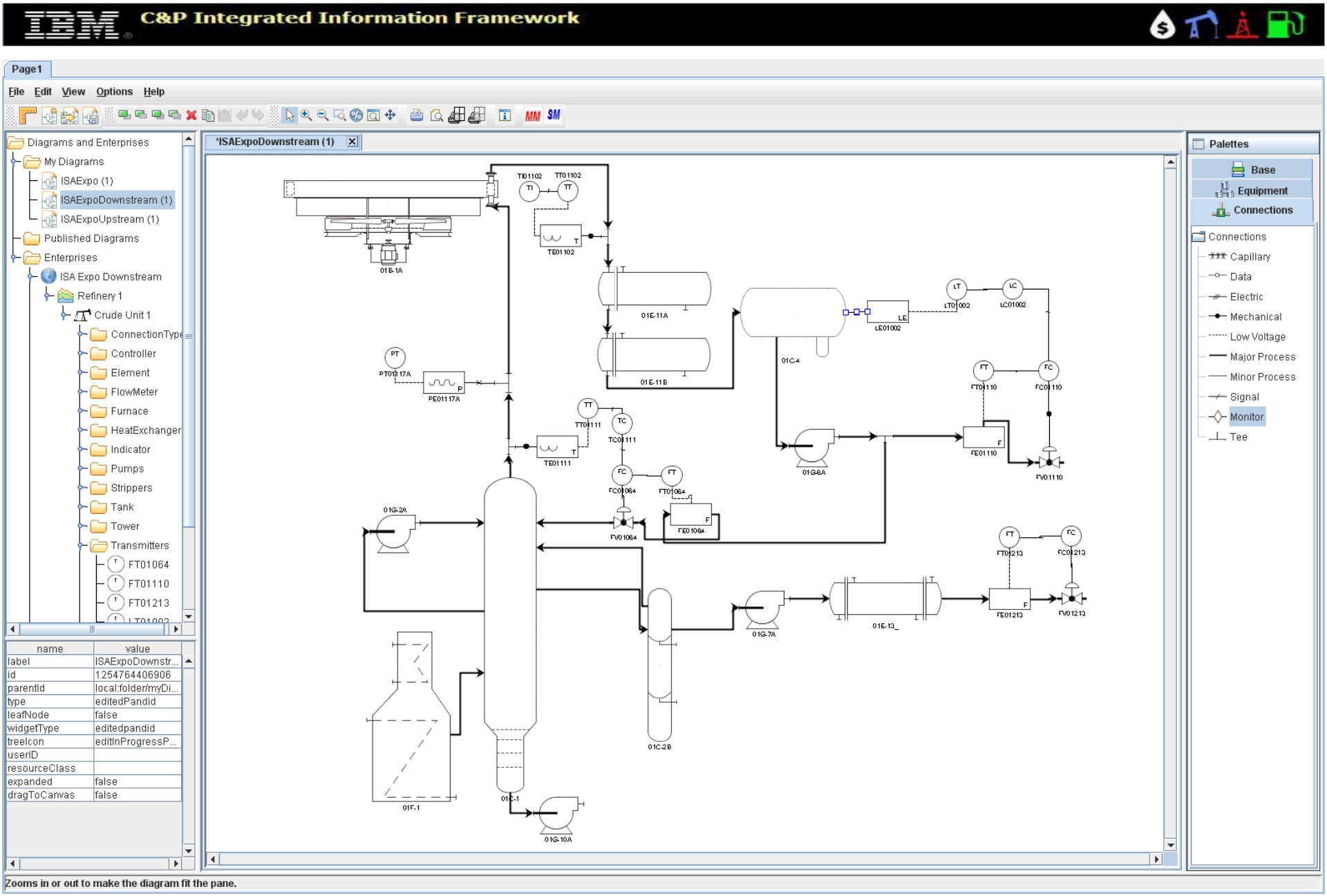
Production Optimization, Planning & Scheduling

EPC & OEM Engineering Product Design Data & Reliability Study Data



Equipment Breakdown Structure, Maintenance Work Plans, & Actual Failure Data

Control Systems, Data Historians, HMIs Equipment Health, & SHE Systems Data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My Diagrams
ISAExpo (1)
ISAExpoDownstream (1)
ISAExpoUpstream (1)
Published Diagrams
Enterprises
ISA Expo Downstream
Refinery 1
Crude Unit 1
ConnectionType
Controller
Element
FlowMeter
Furnace
HeatExchanger
Indicator
Pumps
Strippers
Tank
Tower
Transmitters
FT01064
FT01110
FT01213
name value
label ISAExpoDownstr...
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widgetType editedpandid
treeIcon editInProgressP...
userID
resourceClass
expanded false
dragToCanvas false
'ISAExpoDownstream (1)
Palettes
Base
Equipment
Connections
Connections
Capillary
Data
Electric
Mechanical
Low Voltage
Major Process
Minor Process
Signal
Monitor
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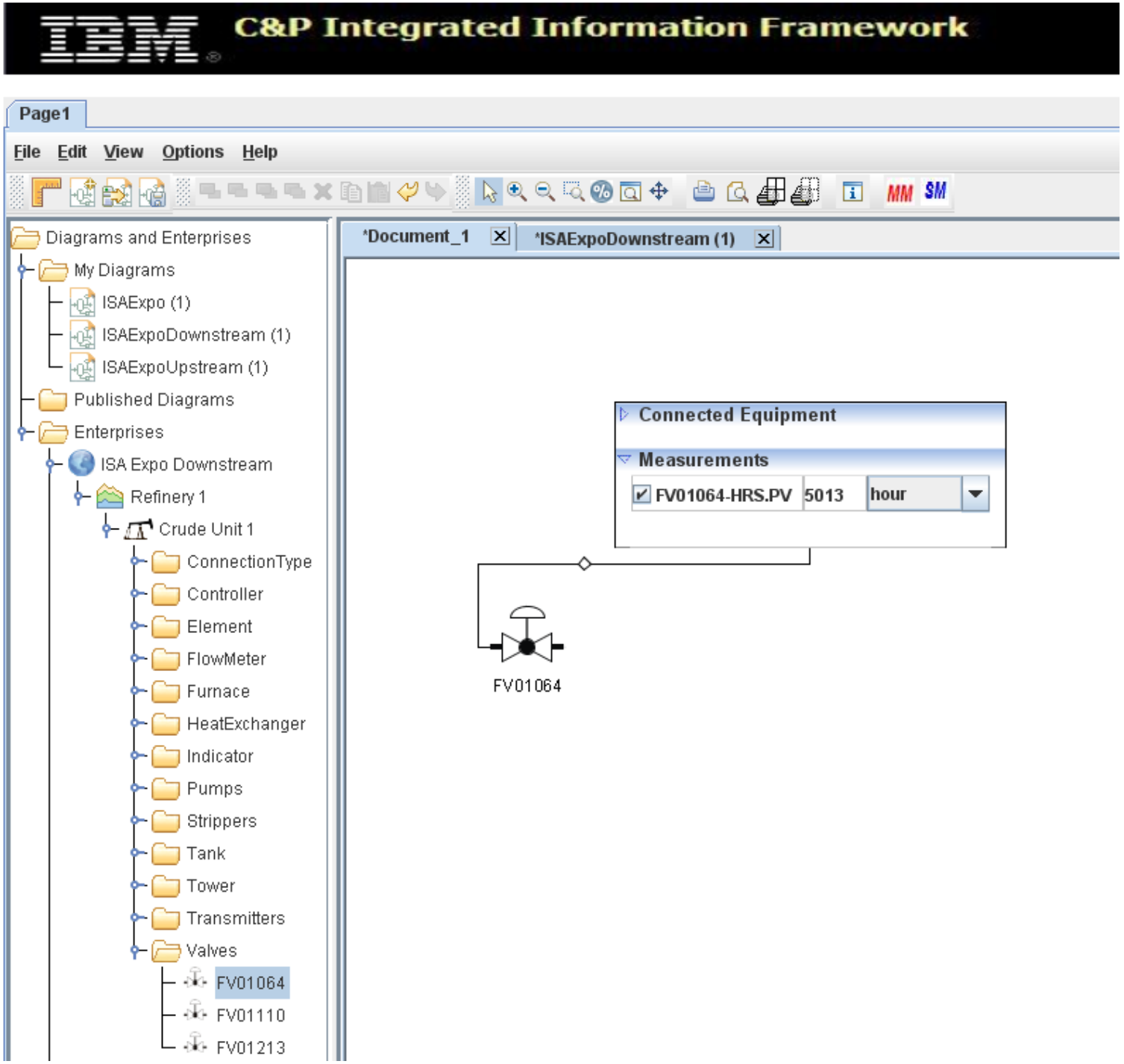
E115:1 (IBM)


IBM
C&P Integrated Information Framework
Page1
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MM SM
Diagrams and Enterprises
My Diagrams
ISAExpo (1)
ISAExpoDownstream (1)
ISAExpoUpstream (1)
Published Diagrams
Enterprises
ISA Expo Downstream
Refinery 1
Crude Unit 1
ConnectionType
Controller
Element
FlowMeter
Furnace
HeatExchanger
Indicator
Pumps
Strippers
Tank
Tower
Transmitters
Valves
FV01064
FV01110
FV01213
*Document_1
*ISAExpoDownstream (1)
Connected Equipment
Measurements
FV01064-HRS.PV
5013
hour
FV01064

E115:2 (IBM)

Oil & Gas Portals / Business Applications

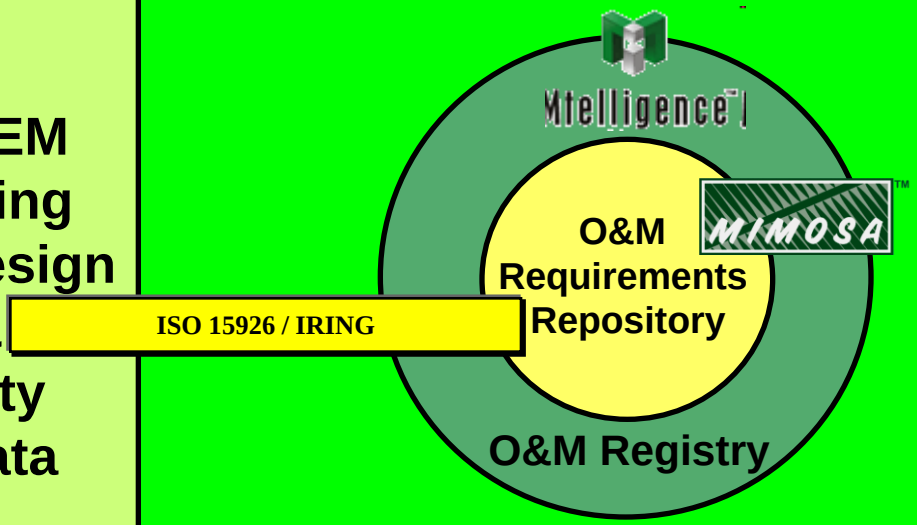
Business Intelligence

OpenO&M Event-Oriented Message Bus

Enterprise HR, Financial, Materiel, Logistics, & Mission Capability Data

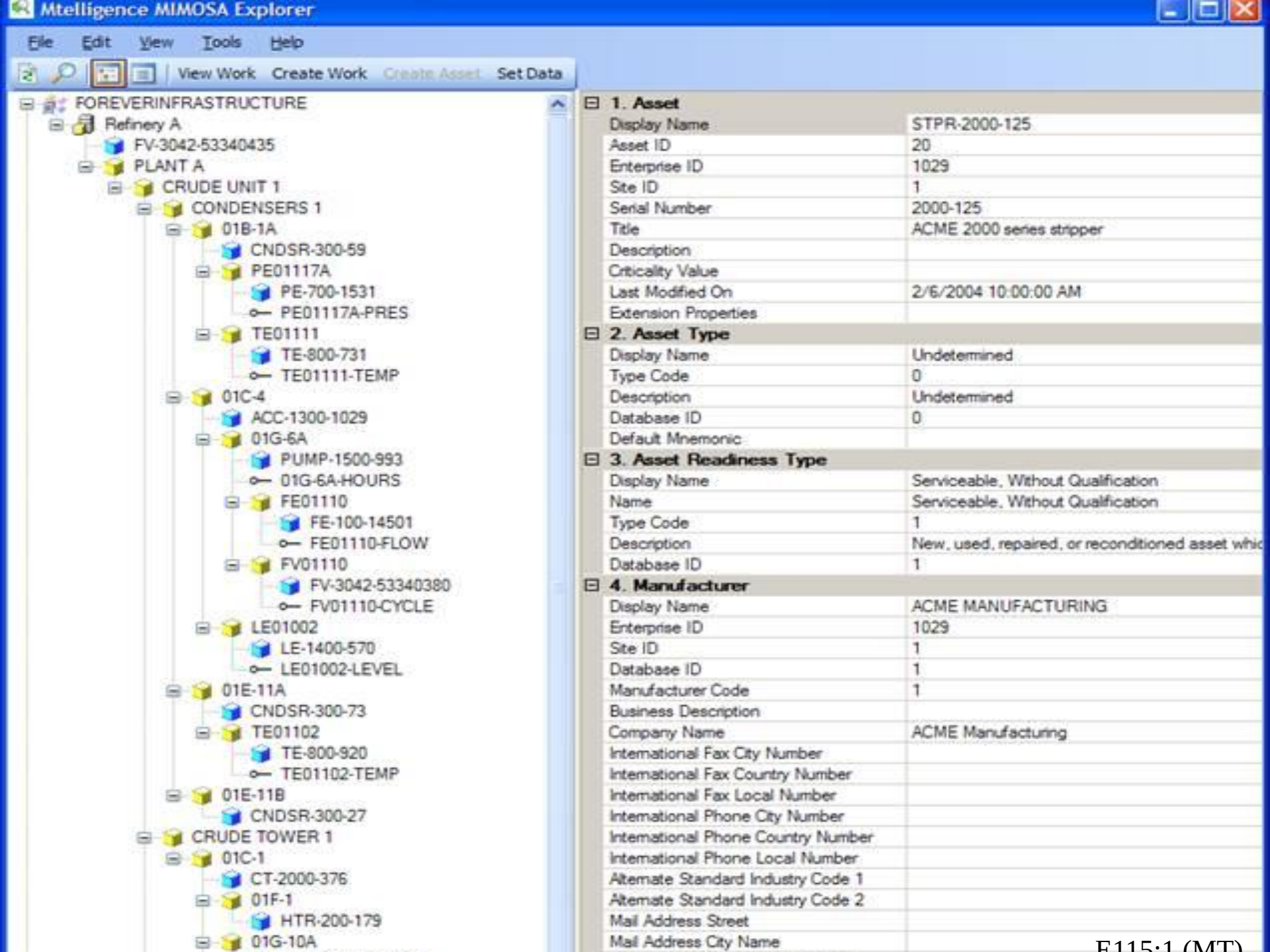
Production Optimization, Planning & Scheduling

EPC & OEM Engineering Product Design Data & Reliability Study Data



Equipment Breakdown Structure, Maintenance Work Plans, & Actual Failure Data

Control Systems, Data Historians, HMIs Equipment Health, & SHE Systems Data


Mtelligence MIMOSA Explorer
File Edit View Tools Help
View Work Create Work Create Asset Set Data
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FV-3042-53340435
PLANT A
CRUDE UNIT 1
CONDENSERS 1
01B-1A
CNDSR-300-59
PE01117A
PE-700-1531
PE01117A-PRES
TE01111
TE-800-731
TE01111-TEMP
01C-4
ACC-1300-1029
01G-6A
PUMP-1500-993
01G-6A-HOURS
FE01110
FE-100-14501
FE01110-FLOW
FV01110
FV-3042-53340380
FV01110-CYCLE
LE01002
LE-1400-570
LE01002-LEVEL
01E-11A
CNDSR-300-73
TE01102
TE-800-920
TE01102-TEMP
01E-11B
CNDSR-300-27
CRUDE TOWER 1
01C-1
CT-2000-376
01F-1
HTR-200-179
01G-10A
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Display Name STPR-2000-125
Asset ID 20
Enterprise ID 1029
Site ID 1
Serial Number 2000-125
Title ACME 2000 series stripper
Description
Criticality Value
Last Modified On 2/6/2004 10:00:00 AM
Extension Properties
2. Asset Type
Display Name Undetermined
Type Code 0
Description Undetermined
Database ID 0
Default Mnemonic
3. Asset Readiness Type
Display Name Serviceable, Without Qualification
Name Serviceable, Without Qualification
Type Code 1
Description New, used, repaired, or reconditioned asset whic
Database ID 1
4. Manufacturer
Display Name ACME MANUFACTURING
Enterprise ID 1029
Site ID 1
Database ID 1
Manufacturer Code 1
Business Description
Company Name ACME Manufacturing
International Fax City Number
International Fax Country Number
International Fax Local Number
International Phone City Number
International Phone Country Number
International Phone Local Number
Alternate Standard Industry Code 1
Alternate Standard Industry Code 2
Mail Address Street
Mail Address City Name

Oil & Gas Portals / Business Applications

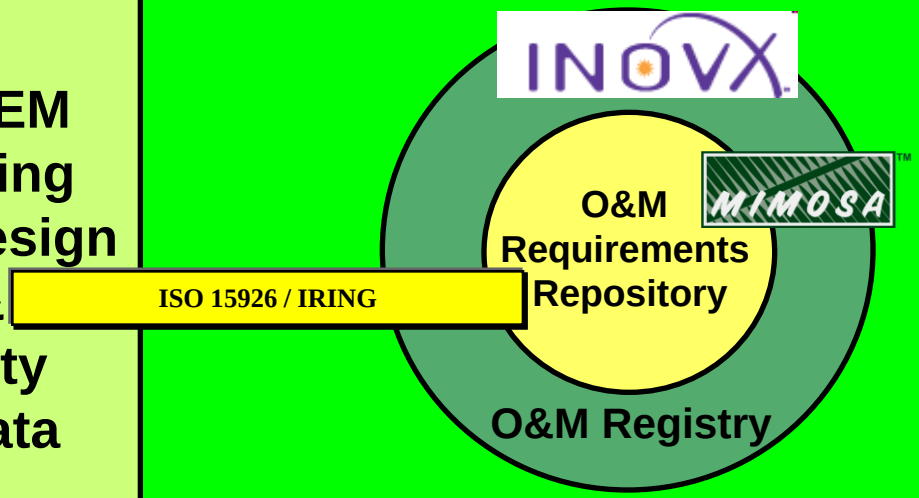
Business Intelligence

OpenO&M Event-Oriented Message Bus

Enterprise HR, Financial, Materiel, Logistics, & Mission Capability Data

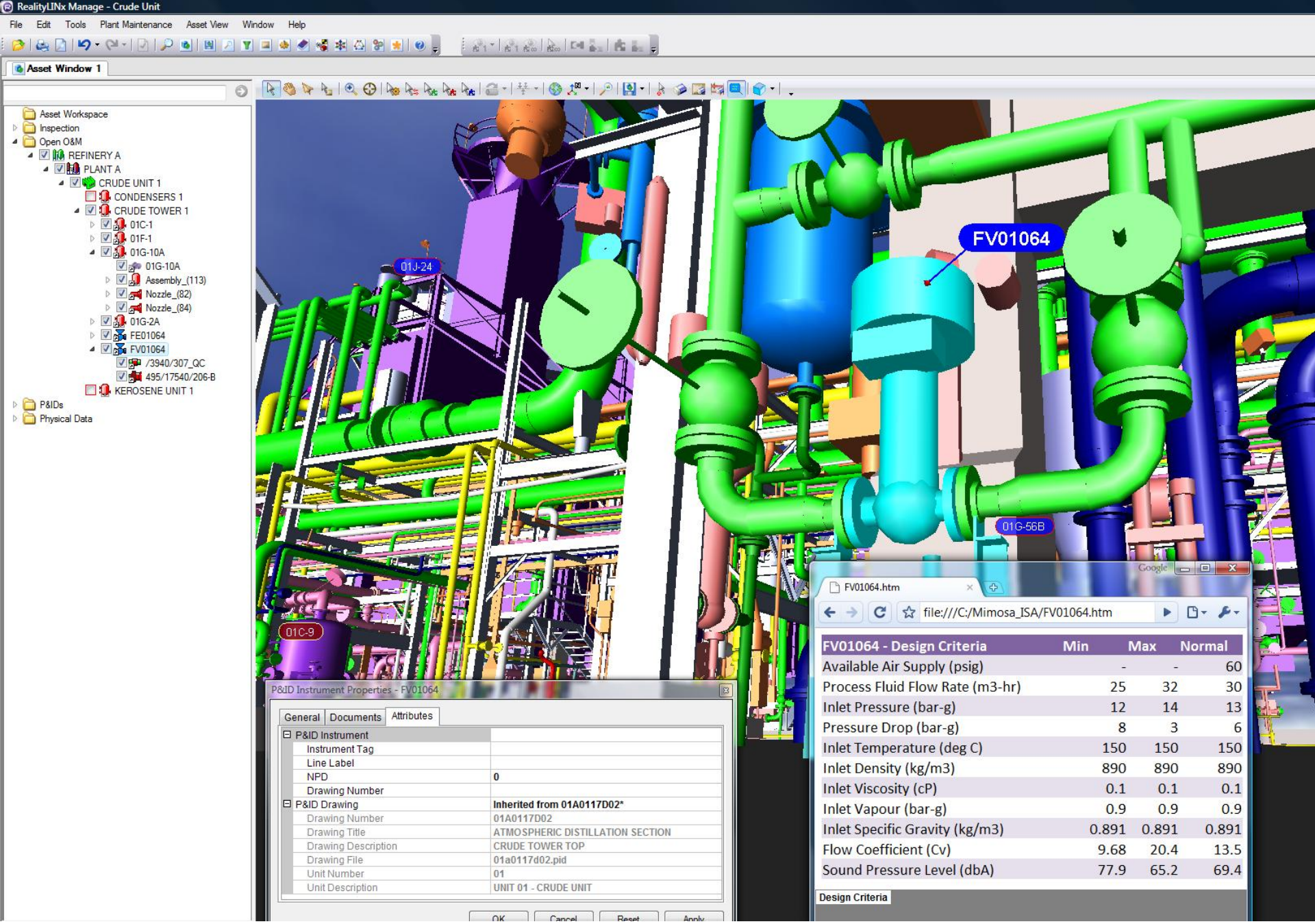
Production Optimization, Planning & Scheduling

EPC & OEM Engineering Product Design Data & Reliability Study Data



Equipment Breakdown Structure, Maintenance Work Plans, & Actual Failure Data

Control Systems, Data Historians, HMIs Equipment Health, & SHE Systems Data


RealityLINx Manage - Crude Unit
File Edit Tools Plant Maintenance Asset View Window Help
Asset Window 1
Asset Workspace
Inspection
Open O&M
REFINERY A
PLANT A
CRUDE UNIT 1
CONDENSERS 1
CRUDE TOWER 1
01C-1
01F-1
01G-10A
01G-10A
Assembly_(113)
Nozzle_(82)
Nozzle_(84)
01G-2A
FE01064
FV01064
/3940/307_QC
495/17540/206-B
KEROSENE UNIT 1
P&IDs
Physical Data
FV01064
01J-24
01G-56B
01C-9
P&ID Instrument Properties - FV01064
General Documents Attributes
P&ID Instrument
Instrument Tag
Line Label
NPD 0
Drawing Number
P&ID Drawing Inherited from 01A0117D02*
Drawing Number 01A0117D02
Drawing Title ATMOSPHERIC DISTILLATION SECTION
Drawing Description CRUDE TOWER TOP
Drawing File 01a0117d02.pid
Unit Number 01
Unit Description UNIT 01 - CRUDE UNIT
OK Cancel Reset Apply
FV01064.htm
file:///C:/Mimosa_ISA/FV01064.htm
FV01064 - Design Criteria Min Max Normal
Available Air Supply (psig) - - 60
Process Fluid Flow Rate (m3-hr) 25 32 30
Inlet Pressure (bar-g) 12 14 13
Pressure Drop (bar-g) 8 3 6
Inlet Temperature (deg C) 150 150 150
Inlet Density (kg/m3) 890 890 890
Inlet Viscosity (cP) 0.1 0.1 0.1
Inlet Vapour (bar-g) 0.9 0.9 0.9
Inlet Specific Gravity (kg/m3) 0.891 0.891 0.891
Flow Coefficient (Cv) 9.68 20.4 13.5
Sound Pressure Level (dbA) 77.9 65.2 69.4
Design Criteria

Oil & Gas Portals / Business Applications

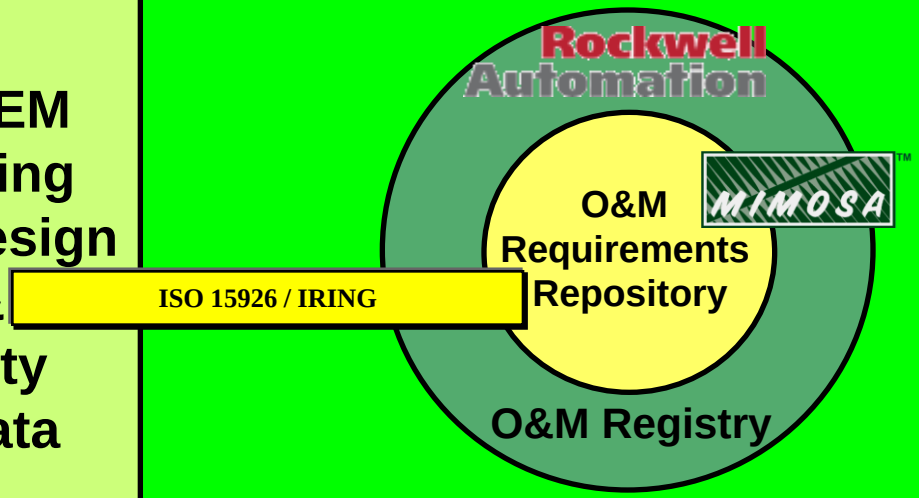
Business Intelligence

OpenO&M Event-Oriented Message Bus

Enterprise HR, Financial, Materiel, Logistics, & Mission Capability Data

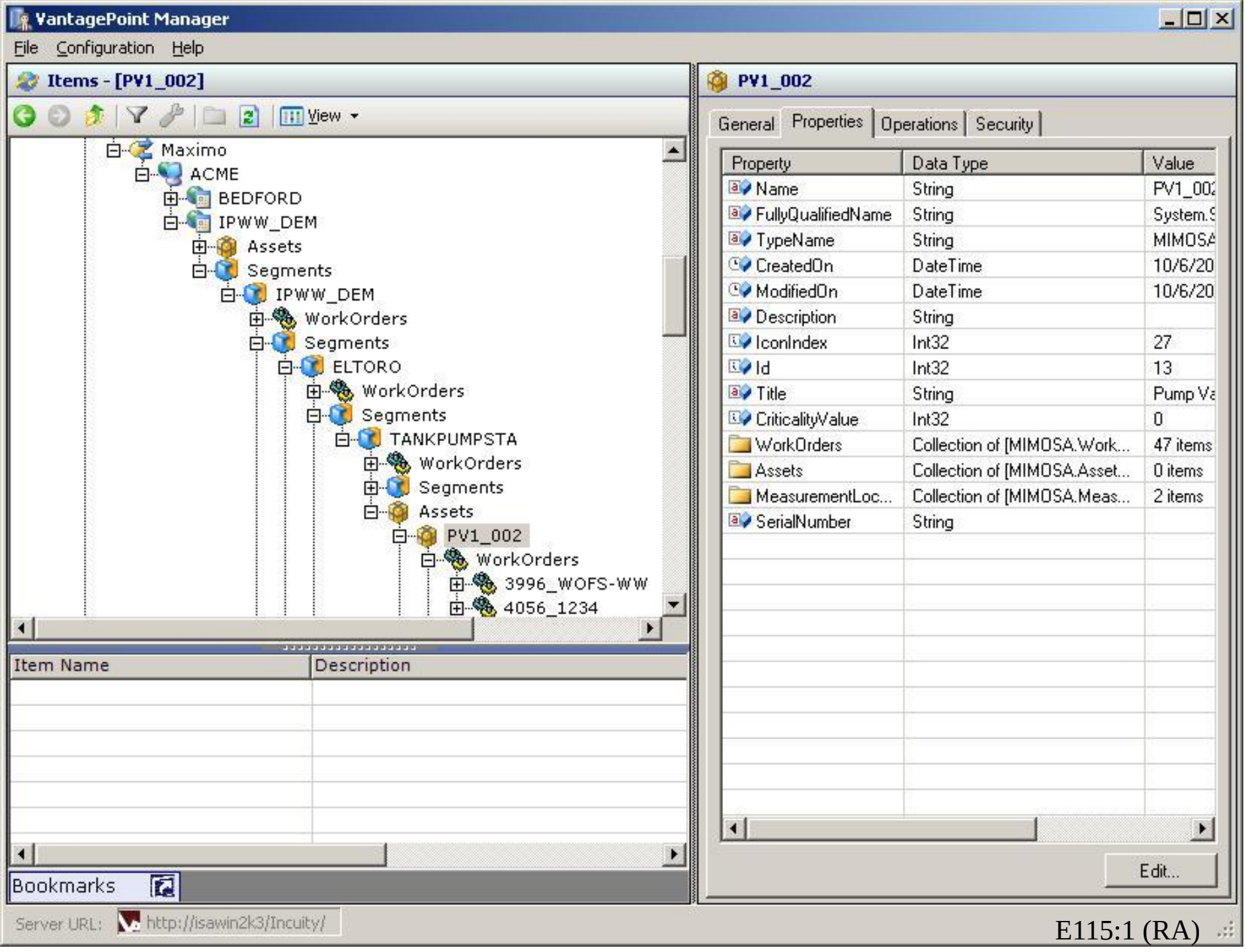
Production Optimization, Planning & Scheduling

EPC & OEM Engineering Product Design Data & Reliability Study Data



Equipment Breakdown Structure, Maintenance Work Plans, & Actual Failure Data

Control Systems, Data Historians, HMIs Equipment Health, & SHE Systems Data


VantagePoint Manager
File
Configuration
Help
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View
Maximo
ACME
BEDFORD
IPWW_DEM
Assets
Segments
IPWW_DEM
WorkOrders
Segments
ELTORO
WorkOrders
Segments
TANKPUMPSTA
WorkOrders
Segments
Assets
PV1_002
WorkOrders
3996_WOFS-WW
4056_1234
Item Name
Description
Bookmarks
PV1_002
General
Properties
Operations
Security
Property
Data Type
Value
Name
String
PV1_002
FullyQualifiedName
String
System.S
TypeName
String
MIMOSA
CreatedOn
DateTime
10/6/20
ModifiedOn
DateTime
10/6/20
Description
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Id
Int32
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Title
String
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WorkOrders
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Assets
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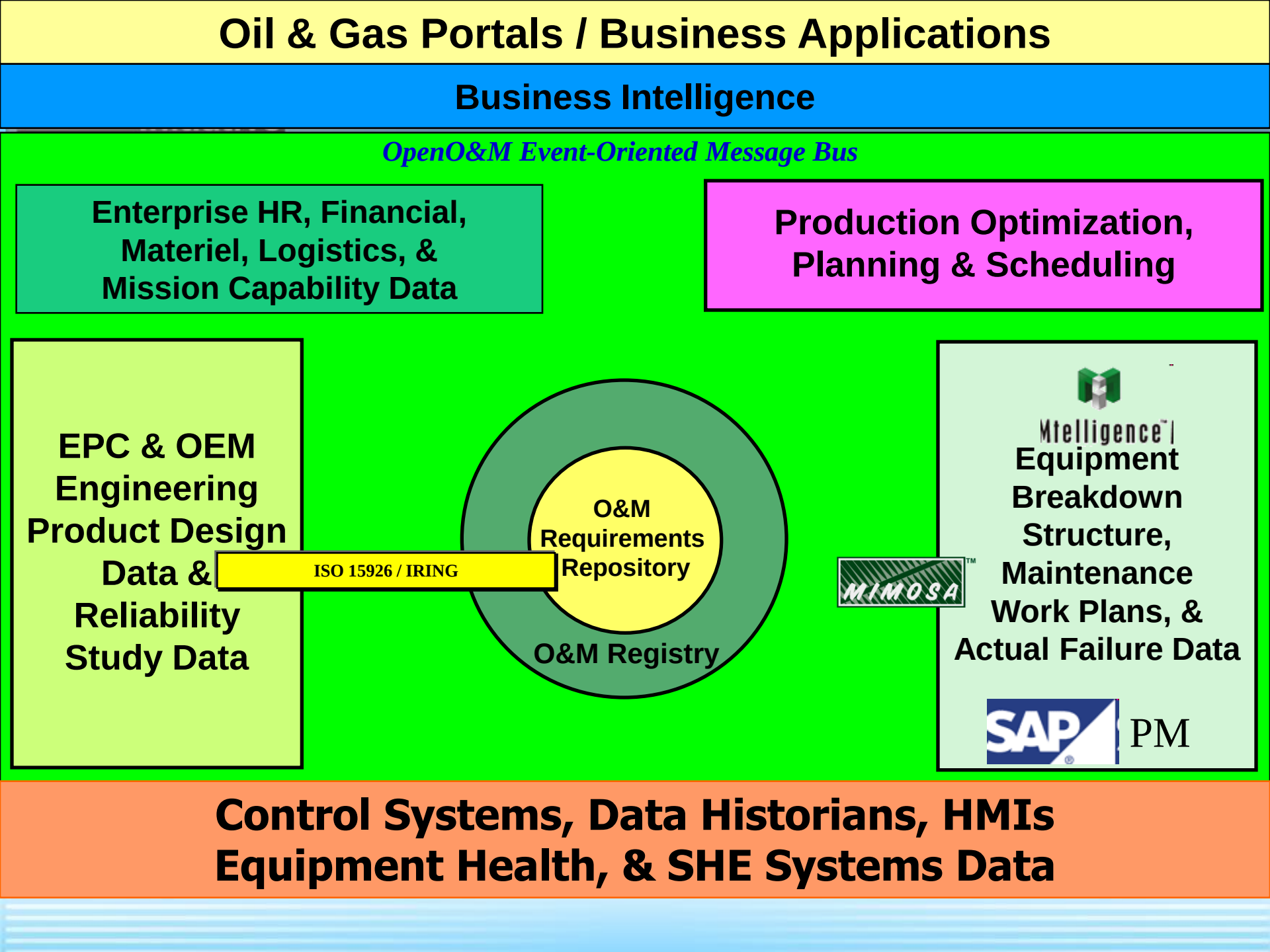
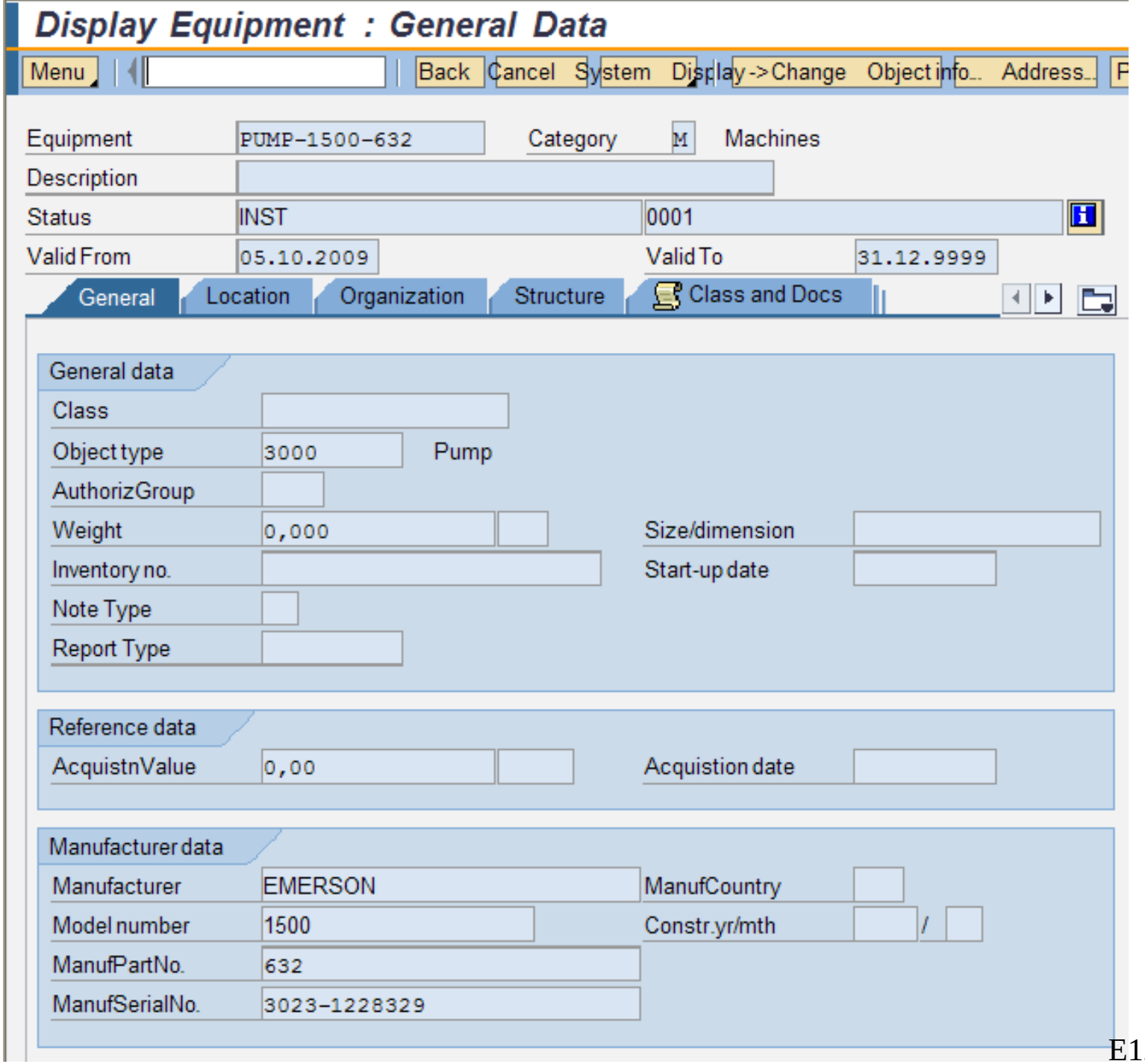
E115:1 (RA)


Oil & Gas Portals / Business Applications
Business Intelligence
OpenO&M Event-Oriented Message Bus
Enterprise HR, Financial, Materiel, Logistics, & Mission Capability Data
Production Optimization, Planning & Scheduling
EPC & OEM Engineering Product Design Data & Reliability Study Data
ISO 15926 / IRING
O&M Requirements Repository
O&M Registry
MIMOSA
Mtelligence
Equipment Breakdown Structure, Maintenance Work Plans, & Actual Failure Data
SAP PM
Control Systems, Data Historians, HMIs
Equipment Health, & SHE Systems Data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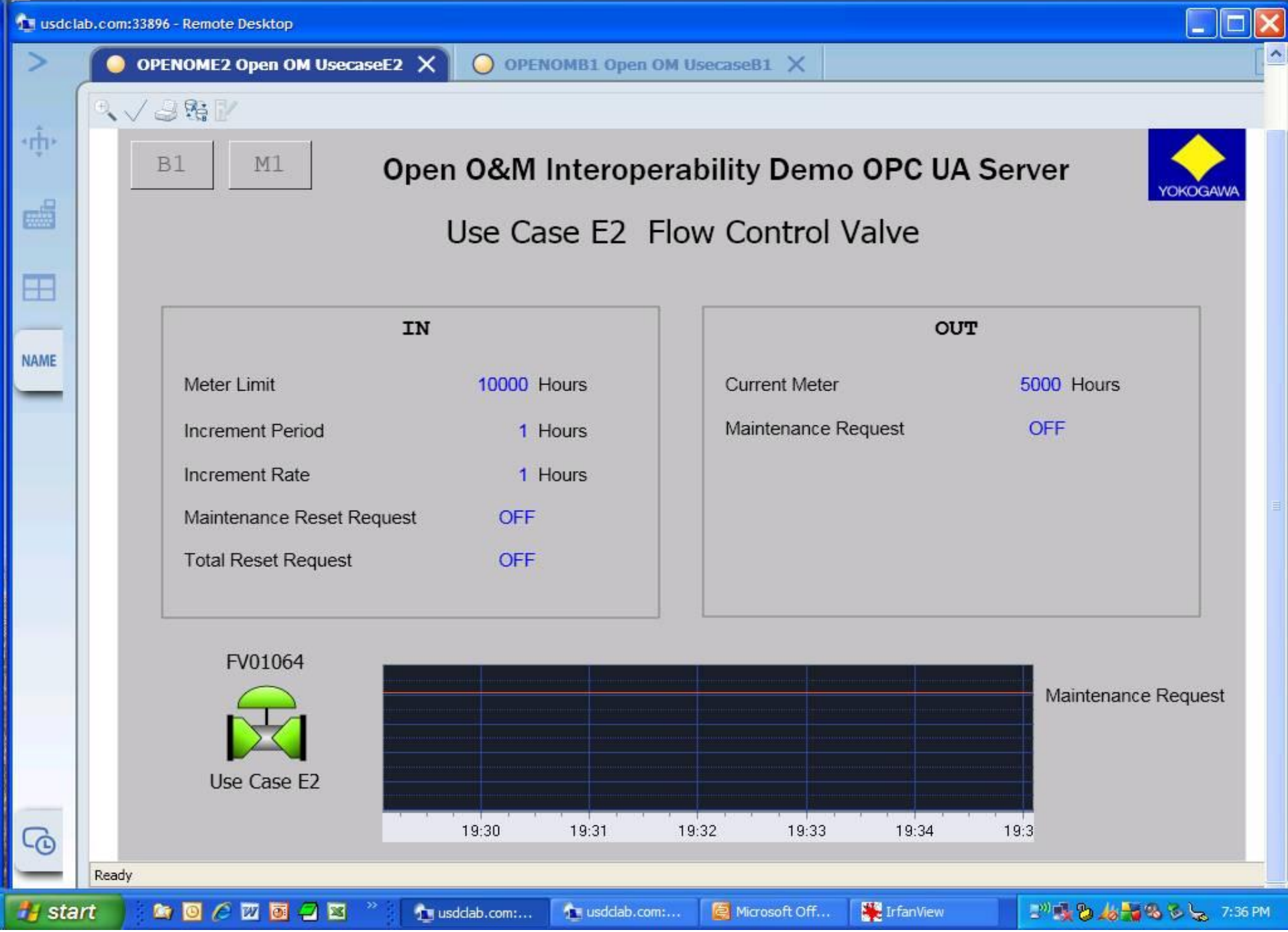
Menu
Back
Cancel
System
Display->Change
Object info...
Address...
Equipment
PUMP-1500-632
Category
M
Machines
Description
Status
INST
0001
Valid From
05.10.2009
Valid To
31.12.9999
General
Location
Organization
Structure
Class and Docs
General data
Class
Object type
3000
Pump
AuthorizGroup
Weight
0,000
Size/dimension
Inventory no.
Start-up date
Note Type
Report Type
Reference data
AcquistnValue
0,00
Acquistion date
Manufacturer data
Manufacturer
EMERSON
ManufCountry
Model number
1500
Constr.yr/mth
/
ManufPartNo.
632
ManufSerialNo.
3023-1228329

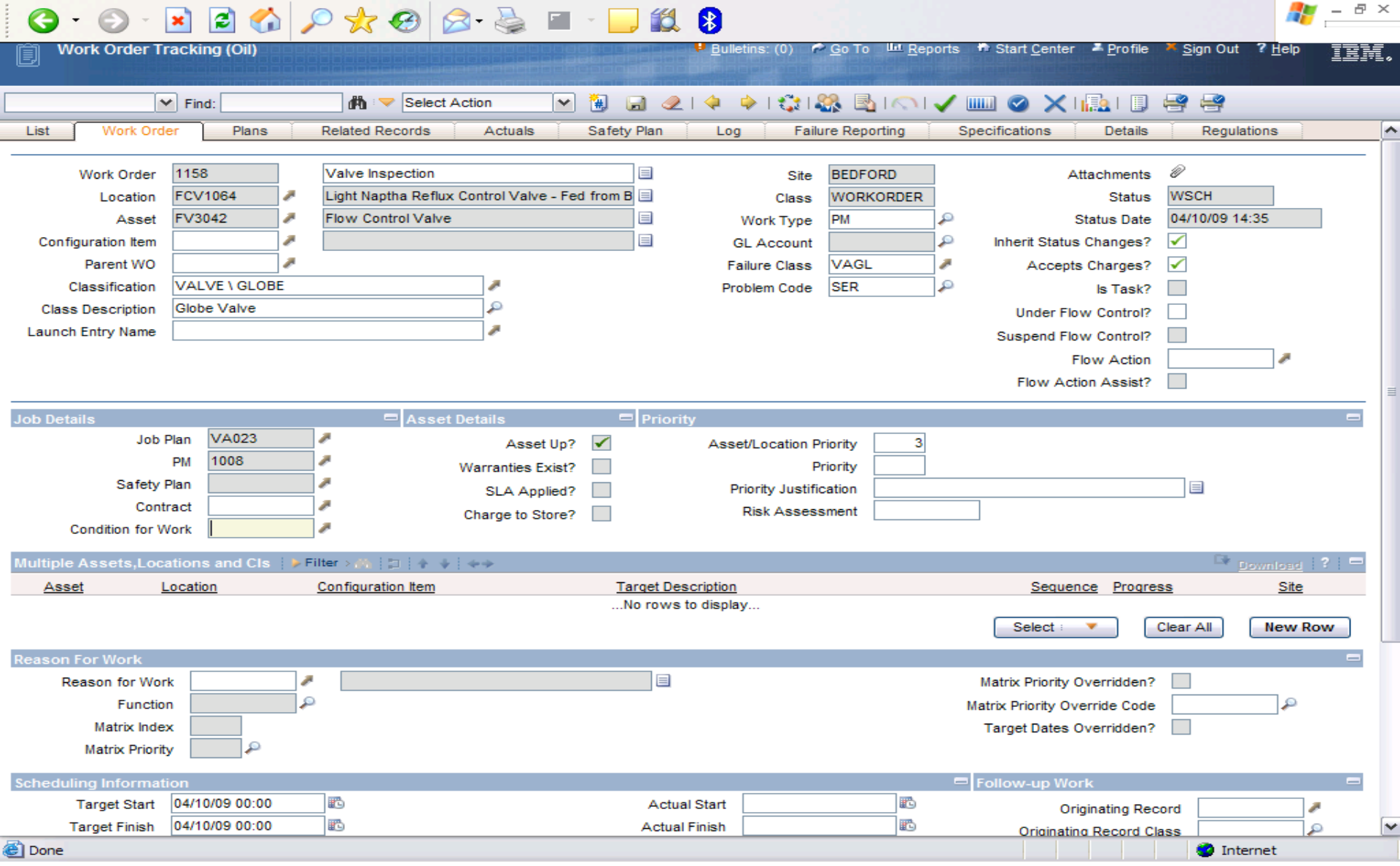
Use Case E2: "Active" Engineering System Validating Remove/Replace Operations

Current Business Problem: In remove/replace operations, there are limited automated methods to validate that a correct replacement part as been installed which meets the engineering requirements of the process. This results in situations where incorrect replacement parts result in costly failures and raise safety, health, and environment risks.

Capability Demonstrated in Booth: "Extended" Part Cut-Sheet Data is Now Electronically Available in ISO 15926 and MIMOSA Format On-line to Automatically Compare Against the Engineering Requirements Data from the P&ID System Without Manually Field-by-Field Review


usdclab.com:33896 - Remote Desktop
OPENOME2 Open OM UsecaseE2
OPENOMB1 Open OM UsecaseB1
B1
M1
Open O&M Interoperability Demo OPC UA Server
YOKOGAWA
Use Case E2 Flow Control Valve
IN
Meter Limit 10000 Hours
Increment Period 1 Hours
Increment Rate 1 Hours
Maintenance Reset Request OFF
Total Reset Request OFF
OUT
Current Meter 5000 Hours
Maintenance Request OFF
FV01064
Use Case E2
19:30
19:31
19:32
19:33
19:34
Maintenance Request
Ready
start
usdclab.com:...
usdclab.com:...
Microsoft Off...
IrfanView
7:36 PM

E205:1 (YK)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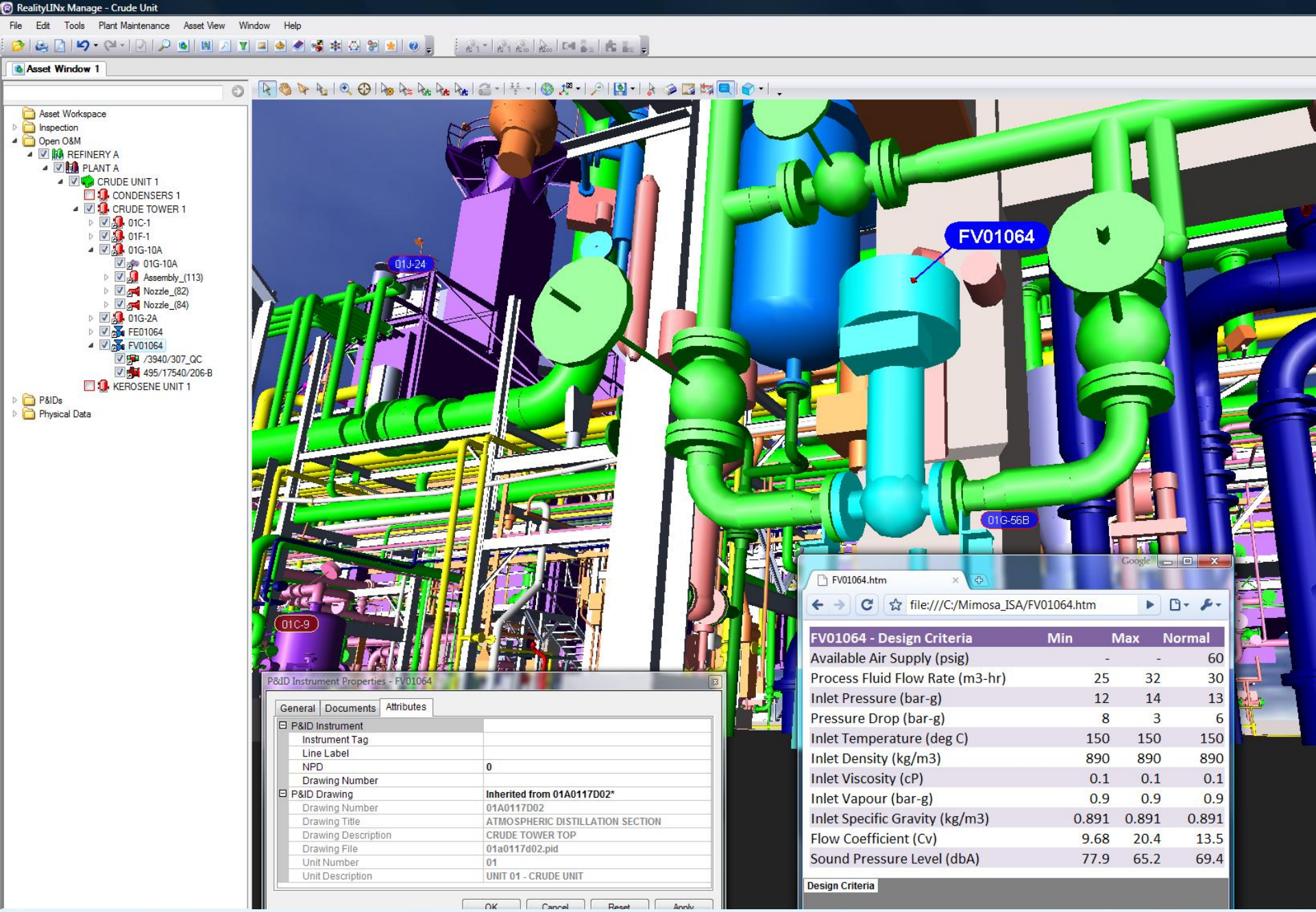
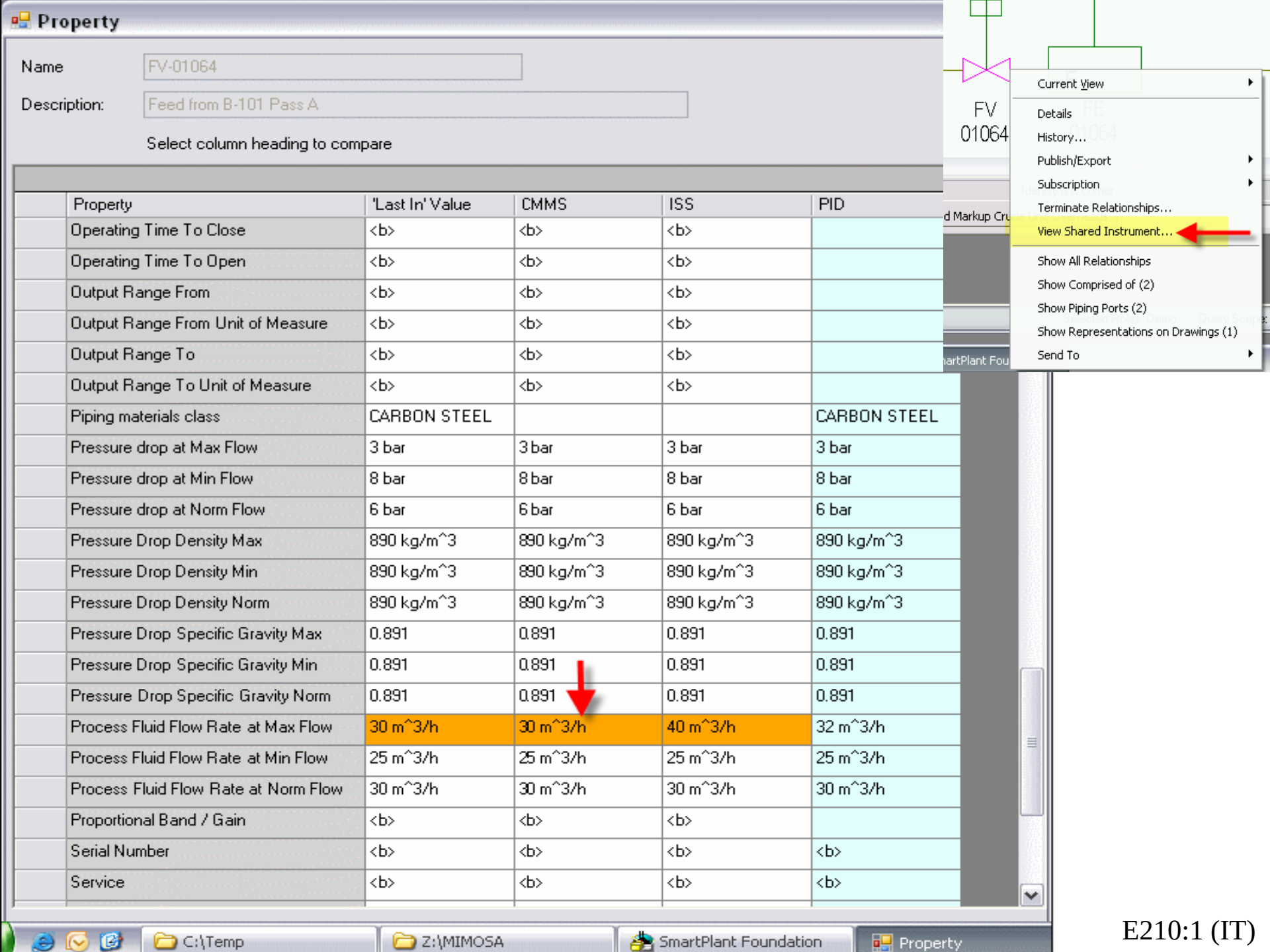
Bulletins: (0)
Go To
Reports
Start Center
Profile
Sign Out
Help
Find:
Select Action
List
Work Order
Plans
Related Records
Actuals
Safety Plan
Log
Failure Reporting
Specifications
Details
Regulations
Work Order 1158
Valve Inspection
Location FCV1064
Light Naptha Reflux Control Valve - Fed from B
Asset FV3042
Flow Control Valve
Configuration Item
Parent WO
Classification VALVE \ GLOBE
Class Description Globe Valve
Launch Entry Name
Site BEDFORD
Class WORKORDER
Work Type PM
GL Account
Failure Class VAGL
Problem Code SER
Attachments
Status WSCH
Status Date 04/10/09 14:35
Inherit Status Changes?
Accepts Charges?
Is Task?
Under Flow Control?
Suspend Flow Control?
Flow Action
Flow Action Assist?
Job Details
Job Plan VA023
PM 1008
Safety Plan
Contract
Condition for Work
Asset Details
Asset Up?
Warranties Exist?
SLA Applied?
Charge to Store?
Priority
Asset/Location Priority 3
Priority
Priority Justification
Risk Assessment
Multiple Assets,Locations and CIs
Filter
Download
Asset
Location
Configuration Item
Target Description
Sequence
Progress
Site
...No rows to display...
Select
Clear All
New Row
Reason For Work
Reason for Work
Function
Matrix Index
Matrix Priority
Matrix Priority Overridden?
Matrix Priority Override Code
Target Dates Overridden?
Scheduling Information
Target Start 04/10/09 00:00
Target Finish 04/10/09 00:00
Actual Start
Actual Finish
Follow-up Work
Originating Record
Originating Record Class
Done
Internet

E210:1


RealityLINx Manage - Crude Unit
File Edit Tools Plant Maintenance Asset View Window Help
Asset Window 1
Asset Workspace
Inspection
Open O&M
REFINERY A
PLANT A
CRUDE UNIT 1
CONDENSERS 1
CRUDE TOWER 1
01C-1
01F-1
01G-10A
01G-10A
Assembly_(113)
Nozzle_(82)
Nozzle_(84)
01G-2A
FE01064
FV01064
/3940/307_QC
495/17540/206-B
KEROSENE UNIT 1
P&IDs
Physical Data
FV01064
01J-24
01G-56B
01C-9
P&ID Instrument Properties - FV01064
General Documents Attributes
P&ID Instrument
Instrument Tag
Line Label
NPD 0
Drawing Number
P&ID Drawing Inherited from 01A0117D02*
Drawing Number 01A0117D02
Drawing Title ATMOSPHERIC DISTILLATION SECTION
Drawing Description CRUDE TOWER TOP
Drawing File 01a0117d02.pid
Unit Number 01
Unit Description UNIT 01 - CRUDE UNIT
OK Cancel Reset Apply
FV01064.htm
file:///C:/Mimosa_ISA/FV01064.htm
FV01064 - Design Criteria Min Max Normal
Available Air Supply (psig) - - 60
Process Fluid Flow Rate (m3-hr) 25 32 30
Inlet Pressure (bar-g) 12 14 13
Pressure Drop (bar-g) 8 3 6
Inlet Temperature (deg C) 150 150 150
Inlet Density (kg/m3) 890 890 890
Inlet Viscosity (cP) 0.1 0.1 0.1
Inlet Vapour (bar-g) 0.9 0.9 0.9
Inlet Specific Gravity (kg/m3) 0.891 0.891 0.891
Flow Coefficient (Cv) 9.68 20.4 13.5
Sound Pressure Level (dbA) 77.9 65.2 69.4
Design Criteria


Property
Name
FV-01064
Description:
Feed from B-101 Pass A
Select column heading to compare
Property
'Last In' Value
CMMS
ISS
PID
Operating Time To Close
Operating Time To Open
Output Range From
Output Range From Unit of Measure
Output Range To
Output Range To Unit of Measure
Piping materials class
CARBON STEEL
CARBON STEEL
Pressure drop at Max Flow
3 bar
Pressure drop at Min Flow
8 bar
Pressure drop at Norm Flow
6 bar
Pressure Drop Density Max
890 kg/m^3
Pressure Drop Density Min
Pressure Drop Density Norm
Pressure Drop Specific Gravity Max
0.891
Pressure Drop Specific Gravity Min
Pressure Drop Specific Gravity Norm
Process Fluid Flow Rate at Max Flow
30 m^3/h
40 m^3/h
32 m^3/h
Process Fluid Flow Rate at Min Flow
25 m^3/h
Process Fluid Flow Rate at Norm Flow
Proportional Band / Gain
Serial Number
Service
FV
01064
Current View
Details
History...
Publish/Export
Subscription
Terminate Relationships...
View Shared Instrument...
Show All Relationships
Show Comprised of (2)
Show Piping Ports (2)
Show Representations on Drawings (1)
Send To
C:\Temp
Z:\MIMOSA
SmartPlant Foundation
Property

Use Case M1: Open Condition-Based Maintenance (CBM) and Condition-Based Operations (CBO) of Instrumentation and Control Devices

Current Business Problem: Data from operations on instrumentation and control devices is readily available, but is not easily turned into information to drive condition-based maintenance and operations. Predictive decision-making is thus difficult and not systemic throughout a plant resulting in costly, unplanned downtime and increased SHE risks.

Capability Demonstrated in Booth: Open CBM and Open CBO for I&C Devices

usdclab.com:33896 - Remote Desktop

OPENOMM1 Open OM UsecaseM1 | OPENOME2 Open OM UsecaseE2

E2 | B1

Open O&M Interoperability Demo OPC UA Server

YOKOGAWA

Use Case M1 Pressure Sensor

IN		OUT	
Scale Ramp Up/Down	60 Sec.	Pressure	26.0 PSIG
HI	50 %		
LO	14 %		

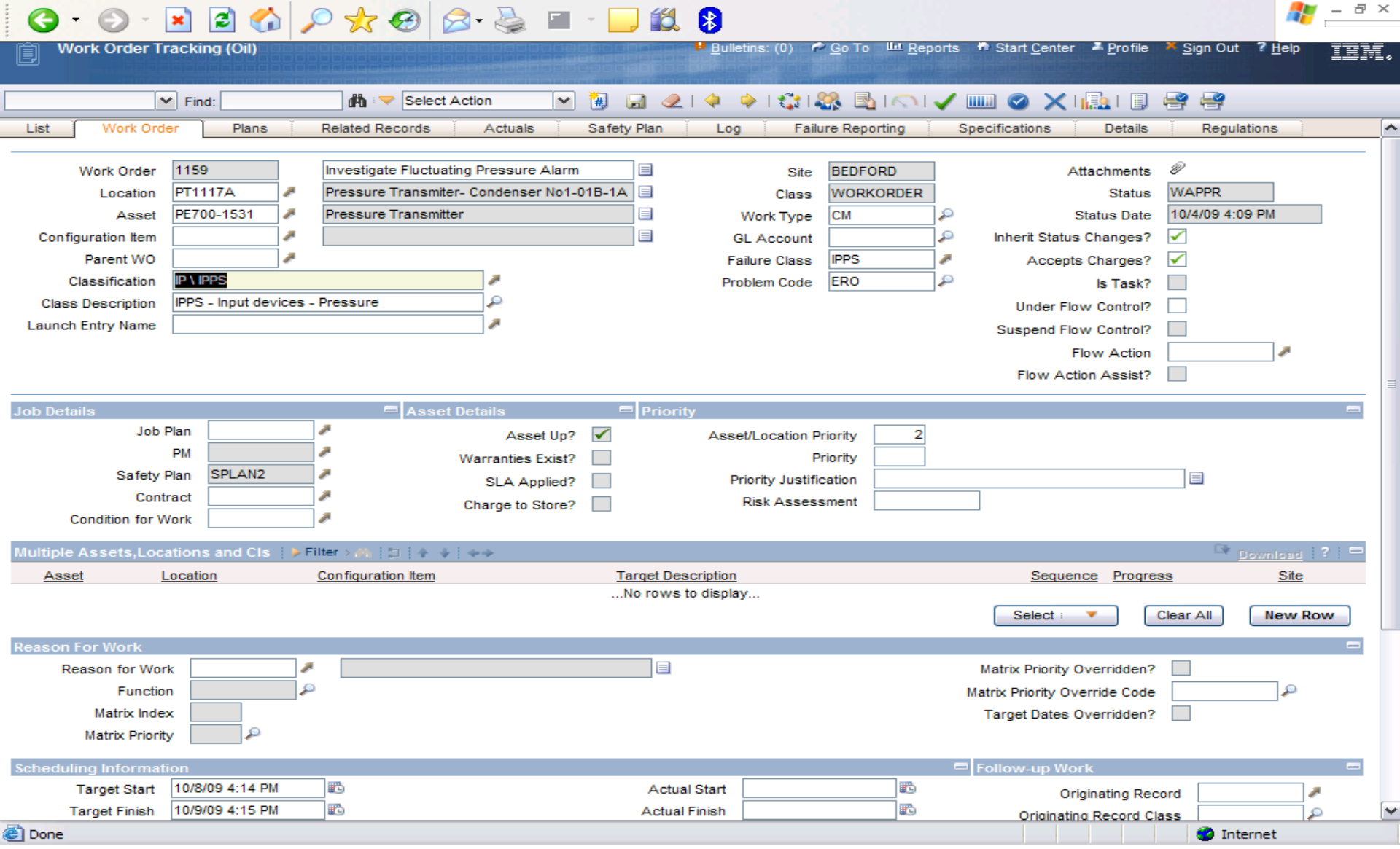
PT01117A

Use Case M1

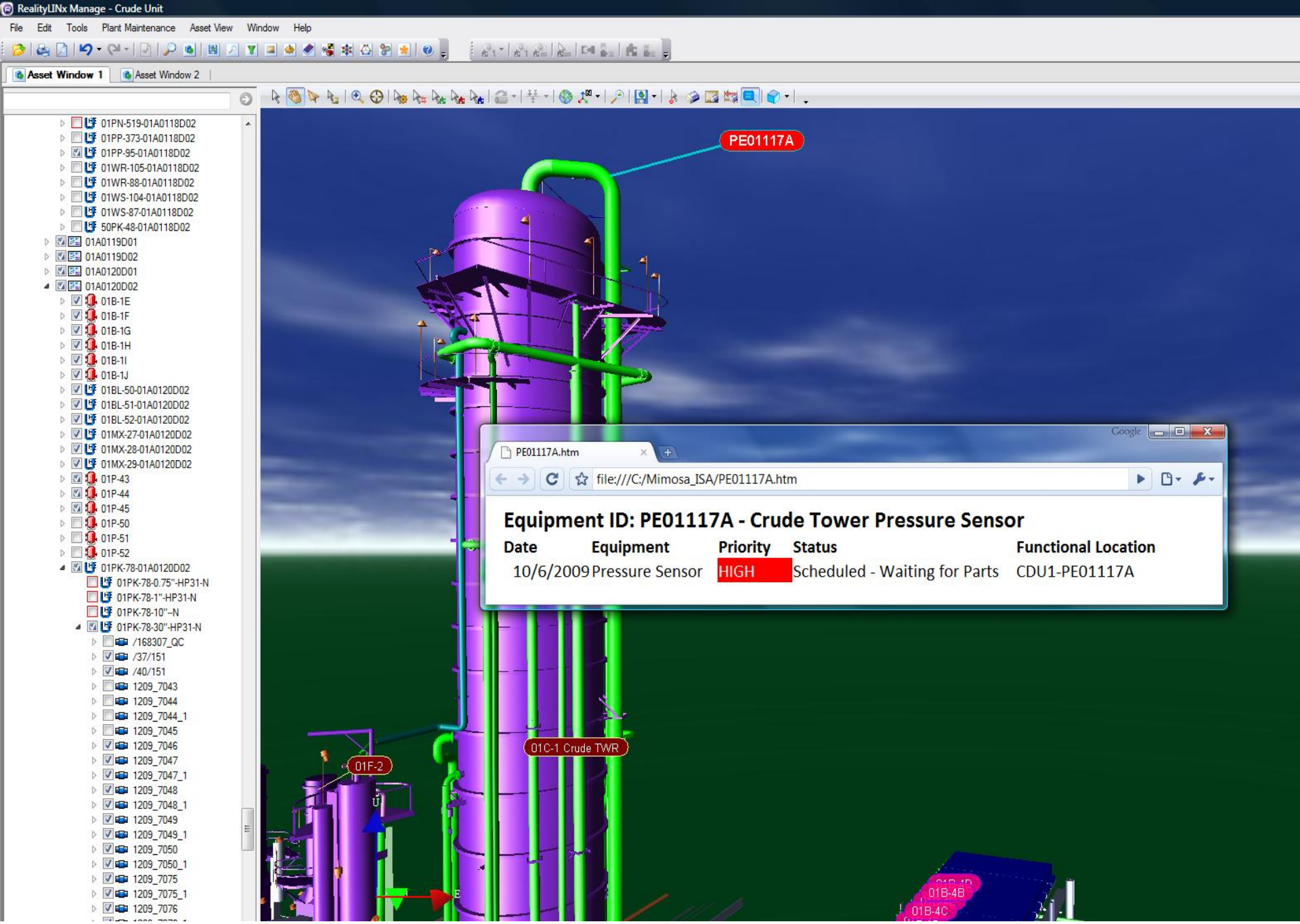
Ready

M105:1 (YK)

start | usdclab.com:... | usdclab.com:... | Microsoft Off... | *D:\Dave's D... | 7:36 PM


Work Order Tracking (Oil)
Bulletins: (0)
Go To
Reports
Start Center
Profile
Sign Out
Help
Find:
Select Action
List
Work Order
Plans
Related Records
Actuals
Safety Plan
Log
Failure Reporting
Specifications
Details
Regulations
Work Order 1159
Investigate Fluctuating Pressure Alarm
Location PT1117A
Pressure Transmiter- Condenser No1-01B-1A
Asset PE700-1531
Pressure Transmitter
Configuration Item
Parent WO
Classification IP \ IPPS
Class Description IPPS - Input devices - Pressure
Launch Entry Name
Site BEDFORD
Class WORKORDER
Work Type CM
GL Account
Failure Class IPPS
Problem Code ERO
Attachments
Status WAPPR
Status Date 10/4/09 4:09 PM
Inherit Status Changes?
Accepts Charges?
Is Task?
Under Flow Control?
Suspend Flow Control?
Flow Action
Flow Action Assist?
Job Details
Job Plan
PM
Safety Plan SPLAN2
Contract
Condition for Work
Asset Details
Asset Up?
Warranties Exist?
SLA Applied?
Charge to Store?
Priority
Asset/Location Priority 2
Priority
Priority Justification
Risk Assessment
Multiple Assets,Locations and CIs
Filter
Download
Asset
Location
Configuration Item
Target Description
Sequence
Progress
Site
...No rows to display...
Select
Clear All
New Row
Reason For Work
Reason for Work
Function
Matrix Index
Matrix Priority
Matrix Priority Overridden?
Matrix Priority Override Code
Target Dates Overridden?
Scheduling Information
Target Start 10/8/09 4:14 PM
Target Finish 10/9/09 4:15 PM
Actual Start
Actual Finish
Follow-up Work
Originating Record
Originating Record Class
Done
Internet

M110:1 (IBM)


RealityLINx Manage - Crude Unit
File Edit Tools Plant Maintenance Asset View Window Help
Asset Window 1
Asset Window 2
01PN-519-01A0118D02
01PP-373-01A0118D02
01PP-95-01A0118D02
01WR-105-01A0118D02
01WR-88-01A0118D02
01WS-104-01A0118D02
01WS-87-01A0118D02
50PK-48-01A0118D02
01A0119D01
01A0119D02
01A0120D01
01A0120D02
01B-1E
01B-1F
01B-1G
01B-1H
01B-1I
01B-1J
01BL-50-01A0120D02
01BL-51-01A0120D02
01BL-52-01A0120D02
01MX-27-01A0120D02
01MX-28-01A0120D02
01MX-29-01A0120D02
01P-43
01P-44
01P-45
01P-50
01P-51
01P-52
01PK-78-01A0120D02
01PK-78-0.75"-HP31-N
01PK-78-1"-HP31-N
01PK-78-10"-N
01PK-78-30"-HP31-N
/168307_QC
/37/151
/40/151
1209_7043
1209_7044
1209_7044_1
1209_7045
1209_7046
1209_7047
1209_7047_1
1209_7048
1209_7048_1
1209_7049
1209_7049_1
1209_7050
1209_7050_1
1209_7075
1209_7075_1
1209_7076
PE01117A
PE01117A.htm
file:///C:/Mimosa_ISA/PE01117A.htm
Equipment ID: PE01117A - Crude Tower Pressure Sensor
Date Equipment Priority Status Functional Location
10/6/2009 Pressure Sensor HIGH Scheduled - Waiting for Parts CDU1-PE01117A
01C-1 Crude TWR
01F-2
01B-4B
01B-4C

M115:1 (IX)

Use Case M2: Open Condition-Based Maintenance (CBM) and Condition-Based Operations (CBO) of Rotating Machinery

Current Business Problem: Data from operations on critical rotating machinery (such as vibration and temperature readings) are also available through the control system, but are not easily turned into information to drive condition-based maintenance and operations. Predictive decision-making is thus difficult and not systemic throughout a plant resulting in costly, unplanned downtime and increased SHE risks.

Capability Demonstrated in Booth: Open CBM and Open CBO for Critical Rotating Machinery

usdclab.com:33896 - Remote Desktop

OPENOMB1 Open OM UsecaseB1 | OPENOMM1 Open OM UsecaseM1

M1 E2

Open O&M Interoperability Demo OPC UA Server

YOKOGAWA

Use Case B1 Pump

IN		OUT	
Alert Off Sec.	420 Sec.	Alert	OFF
Alert On Sec.	60 Sec.		

01G-7A

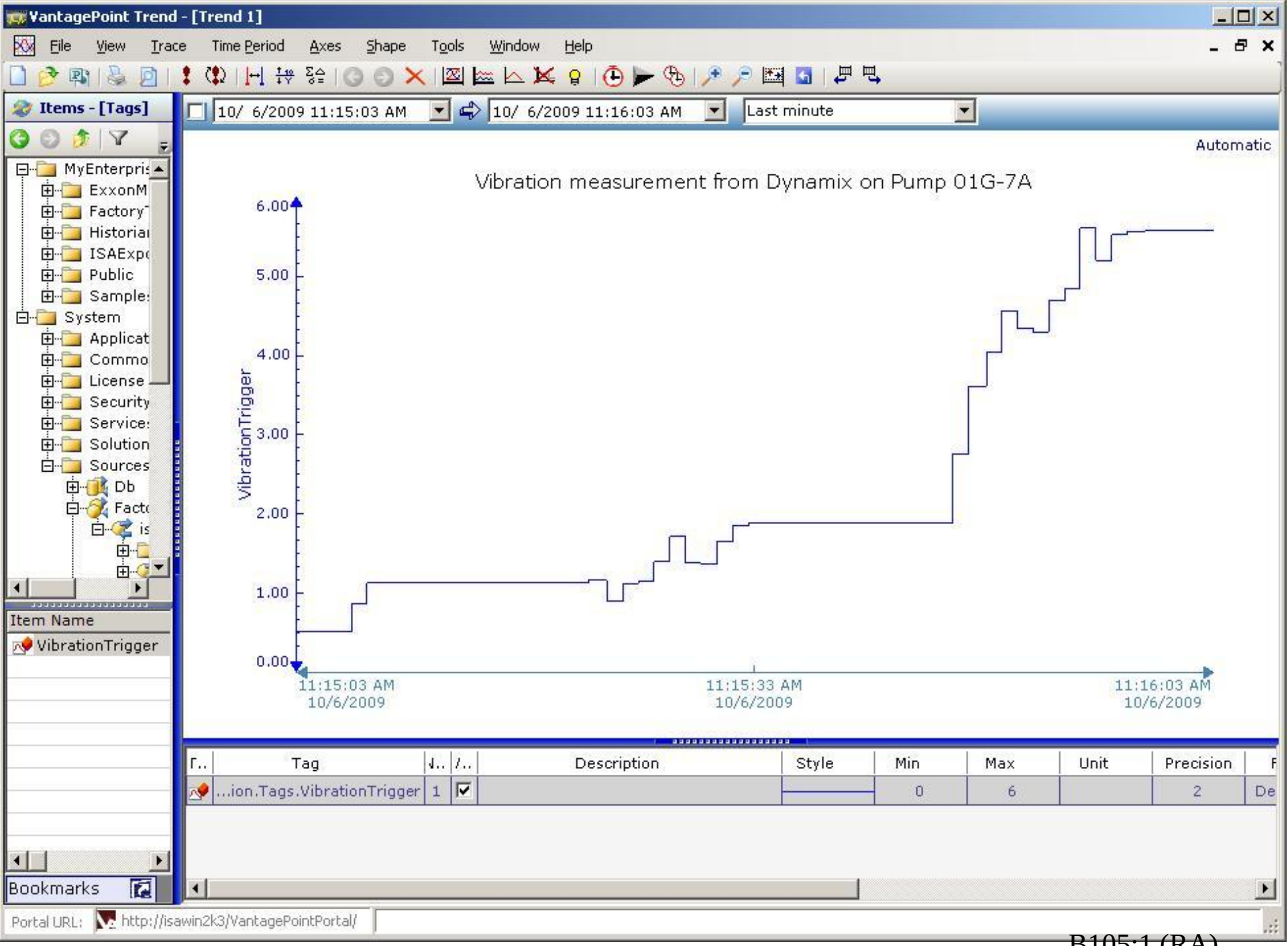
Use Case B1

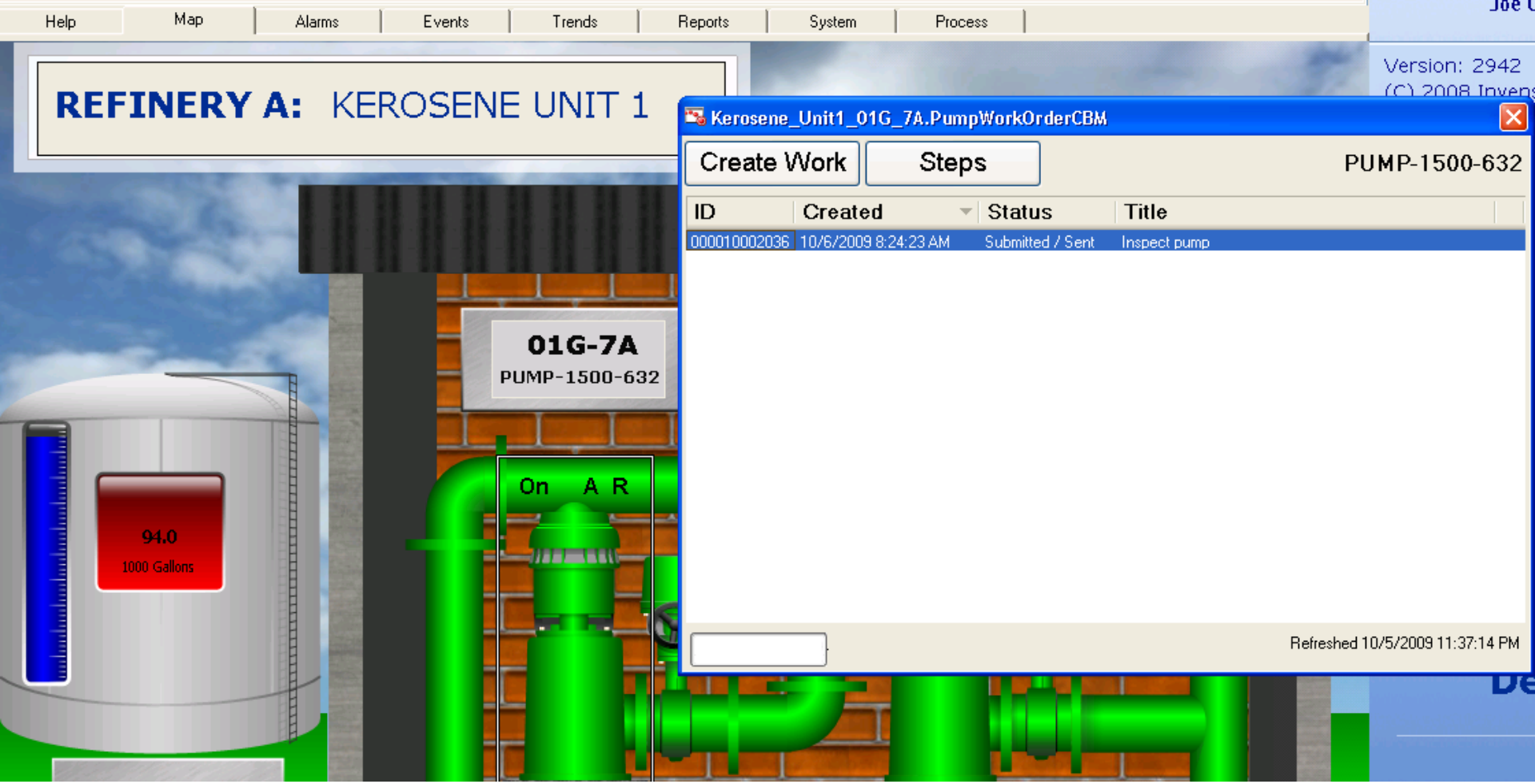
Alert

Ready

B105:1 (YK)

start usdclab.com:... usdclab.com:... Microsoft Off... *D:\Dave's D... 7:37 PM


VantagePoint Trend - [Trend 1]
File View Trace Time Period Axes Shape Tools Window Help
Items - [Tags]
10/ 6/2009 11:15:03 AM
10/ 6/2009 11:16:03 AM
Last minute
Automatic
Vibration measurement from Dynamix on Pump 01G-7A
VibrationTrigger
6.00
5.00
4.00
3.00
2.00
1.00
0.00
11:15:03 AM
10/6/2009
11:15:33 AM
10/6/2009
11:16:03 AM
10/6/2009
Item Name
VibrationTrigger
Tag
Description
Style
Min
Max
Unit
Precision
...ion.Tags.VibrationTrigger
0
6
2
Bookmarks
Portal URL:
http://isawin2k3/VantagePointPortal/


Help
Map
Alarms
Events
Trends
Reports
System
Process
Version: 2942
REFINERY A: KEROSENE UNIT 1
Kerosene_Unit1_01G_7A.PumpWorkOrderCBM
Create Work
Steps
PUMP-1500-632
ID
Created
Status
Title
000010002036
10/6/2009 8:24:23 AM
Submitted / Sent
Inspect pump
Refreshed 10/5/2009 11:37:14 PM
01G-7A
PUMP-1500-632
On A R
94.0
1000 Gallons

Display PM Notification: Malfunction report

Menu | Back | Cancel | System | Display object | Partners | Address...

Reference object

Functional loc.	O1G-7A
Equipment	PUMP-1500-632
Assembly	

Responsibilities

Planner group	/ 4530		
Main WorkCtr	/		
Person Responsi			
Person Responsi			
Reported by	MTELLCBM	Notif.date	06.10.2009 14:48:21

Subject

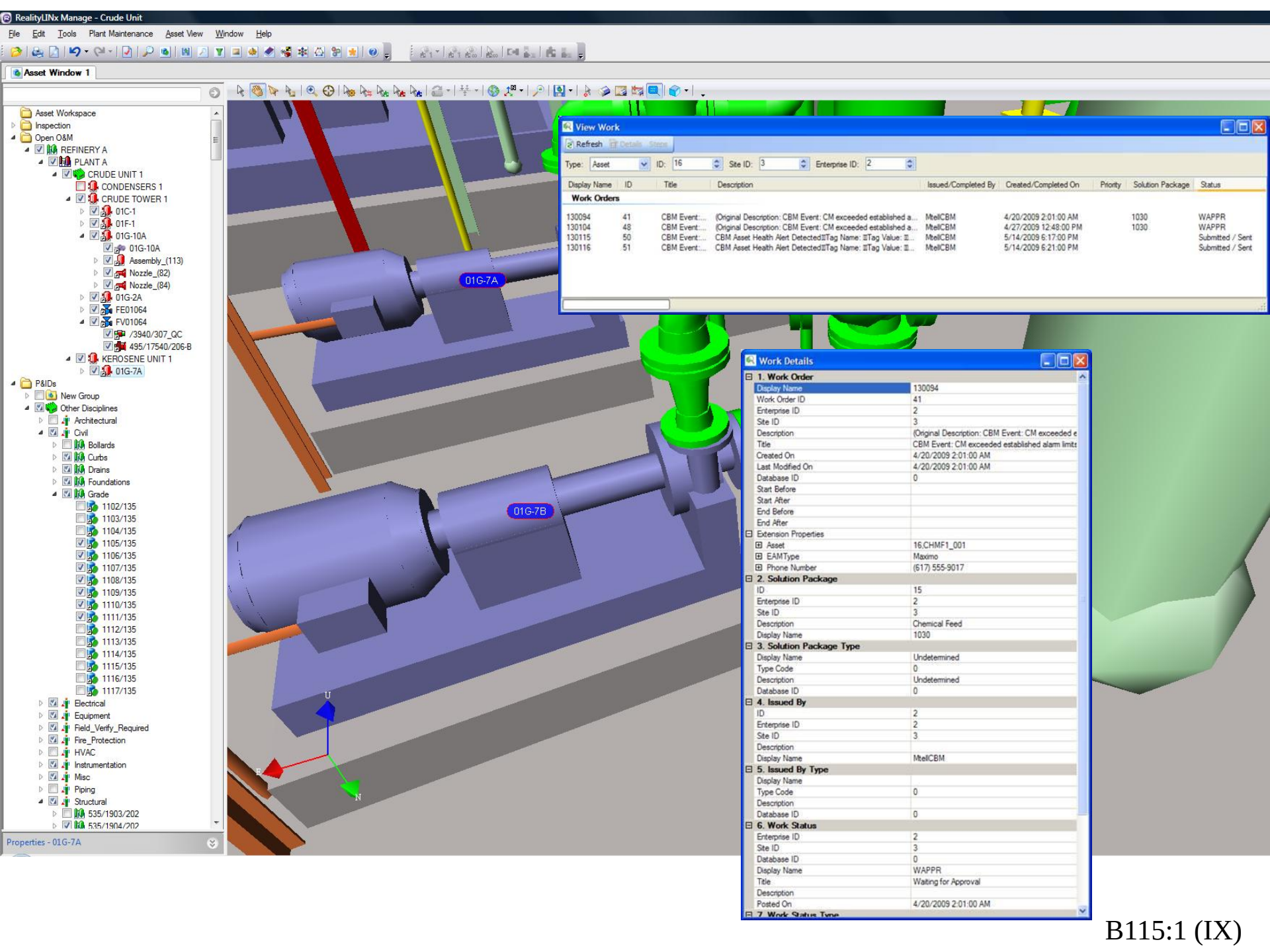
Description: CBM Event: Asset Health Alert for Vibrat

```
CBM Asset Health Alert Detected
Tag Name:
Tag Value:
Rule Policy Tag Condition: AVG(
"[INSQL_VS107]:PumpFixed1_001.Pump.PV", '*-1h', '*' ) > 28 AND
MAX( "[INSQL_VS107]:PlatformGR.CPULoadAvg", '*-1h', '*' ) > 40
Rule Policy Evaluate Condition: 31.5127627259491 > 28.000 AND
44.3868408203125 > 40.000
```

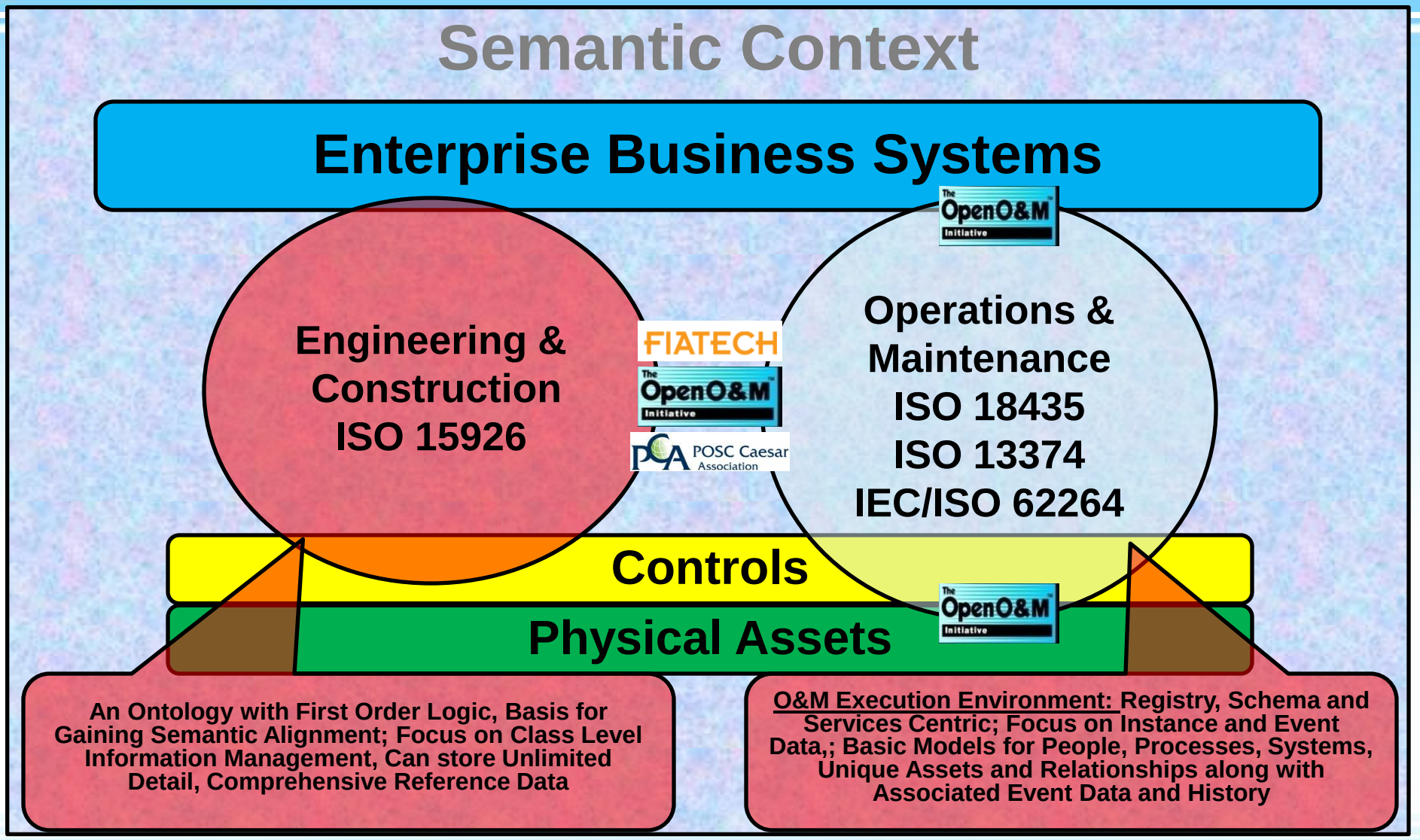
Malfunction data

Malfunct. start	06.10.2009	14:48:21	Breakdown		
Malfunct.end		00:00:00	Breakdown dur.	0,00	H

B110:2 (MT)


RealityLINx Manage - Crude Unit
File Edit Tools Plant Maintenance Asset View Window Help
Asset Window 1
Asset Workspace
Inspection
Open O&M
REFINERY A
PLANT A
CRUDE UNIT 1
CONDENSERS 1
CRUDE TOWER 1
01C-1
01F-1
01G-10A
01G-10A
Assembly_(113)
Nozzle_(82)
Nozzle_(84)
01G-2A
FE01064
FV01064
/3940/307_QC
495/17540/206-B
KEROSENE UNIT 1
01G-7A
P&IDs
New Group
Other Disciplines
Architectural
Civil
Bollards
Curbs
Drains
Foundations
Grade
1102/135
1103/135
1104/135
1105/135
1106/135
1107/135
1108/135
1109/135
1110/135
1111/135
1112/135
1113/135
1114/135
1115/135
1116/135
1117/135
Electrical
Equipment
Field_Verify_Required
Fire_Protection
HVAC
Instrumentation
Misc
Piping
Structural
535/1903/202
Properties - 01G-7A
01G-7A
01G-7B
U
E
N
View Work
Refresh Details Steps
Type: Asset ID: 16 Site ID: 3 Enterprise ID: 2
Display Name ID Title Description Issued/Completed By Created/Completed On Priority Solution Package Status
Work Orders
130094 41 CBM Event:... (Original Description: CBM Event: CM exceeded established a... MtellCBM 4/20/2009 2:01:00 AM 1030 WAPPR
130104 48 CBM Event:... (Original Description: CBM Event: CM exceeded established a... MtellCBM 4/27/2009 12:48:00 PM 1030 WAPPR
130115 50 CBM Event:... CBM Asset Health Alert Detected Tag Name: Tag Value: ... MtellCBM 5/14/2009 6:17:00 PM Submitted / Sent
130116 51 CBM Event:... CBM Asset Health Alert Detected Tag Name: Tag Value: ... MtellCBM 5/14/2009 6:21:00 PM Submitted / Sent
Work Details
1. Work Order
Display Name 130094
Work Order ID 41
Enterprise ID 2
Site ID 3
Description (Original Description: CBM Event: CM exceeded e
Title CBM Event: CM exceeded established alarm limits
Created On 4/20/2009 2:01:00 AM
Last Modified On 4/20/2009 2:01:00 AM
Database ID 0
Start Before
Start After
End Before
End After
Extension Properties
Asset 16,CHMF1_001
EAMType Maximo
Phone Number (617) 555-9017
2. Solution Package
ID 15
Enterprise ID 2
Site ID 3
Description Chemical Feed
Display Name 1030
3. Solution Package Type
Display Name Undetermined
Type Code 0
Description Undetermined
Database ID 0
4. Issued By
ID 2
Enterprise ID 2
Site ID 3
Description
Display Name MtellCBM
5. Issued By Type
Display Name
Type Code 0
Description
Database ID 0
6. Work Status
Enterprise ID 2
Site ID 3
Database ID 0
Display Name WAPPR
Title Waiting for Approval
Description
Posted On 4/20/2009 2:01:00 AM
7. Work Status Type

Context for Collaboration: Bringing Enterprise Business Systems Together with Engineering and O&M Systems – Oil and Gas Upstream Model



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